California Journal OF SECONDARY EDUCATION

This Month

- **Career Planning and the New Reserve Forces Act**
- **Improving Attendance and Accounting in a Large Senior High School**
- **In-service Counselor Training**
- **Current Materials and Events in Science**

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THE JUNIOR HIGH SCHOOL TODAY

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EDITORIAL

THE MEANING OF HIGH SCHOOL GRADUATION IN AUSTRALIA AND AMERICA

As the time for graduation from high school draws near, the question is often raised: what does graduation from high school mean? It may be of interest to consider our view of this stage of educational attainment in the light of that which prevails in another cultural setting. America and Australia take quite different views.

The Australian does not conduct graduation or commencement exercises. The nearest equivalent is "speech day" which is held in the spring sometime before the end of the third term or last of the year. All pupils participate, prizes are awarded for meritorious achievement in sports and "academics," the headmaster (principal) makes his annual report on the state of the school, and presents an account of his stewardship for the year. It is an all-school event, not one just for the "graduating seniors."

The times for school leaving are different in Australia as compared with American secondary schools. A pupil may, after three years of secondary school (end of grade 9 in the United States), "sit" for the "intermediate certificate" examination. If he passes, he may after two more years, sit for the "leaving certificate," (end of grade 11 in the United States), the examinations for which also may determine entrance standards for university matriculation. These two points, "intermediate" and "leaving," mark the main divisions in Australian secondary schools.

Upon completing the intermediate certificate, the typical student is between fourteen and fifteen years of age and has been in school for nine years (six elementary and three secondary); at the leaving certificate level, he is between sixteen and seventeen years of age and has been in school for eleven years (six elementary and five secondary).

The legal minimum school leaving age in Australia hovers between fourteen and fifteen. A large number of pupils leave at this point, having completed only two years of secondary school (end of grade 8 in the United States), falling one year short of the intermediate certificate. Another large group of students leaves after three years of secondary school (end of grade 9 in the United States) most of whom would have "sat" for the intermediate examination, some passing and others failing.

At the intermediate certificate level, two standards in quality of certificate are developing. The traditional certificate granted after an external examination, in which the university plays a prominent part, is of high academic standard; a new, and variously titled, intermediate certificate is coming into prominence, based on internal examinations, with varied standards.

The drop-out (wastage is the Australian educator's term) is very steep

after this third year in all but the academically selective schools. Classes in the fourth and fifth years (United States tenth and eleventh grades) are much smaller and the academic pace is markedly stepped up.

There are, thus, three points at which pupils typically leave secondary school: (1) a large number after two years, at the minimum school leaving age, with no diploma or certificate; (2) a sizable group after three years, with an intermediate certificate based either on an internal or an external examination; (3) a selected few after five years who receive the leaving certificate. The emphasis at each point is, not upon graduation as in the American high school, but upon the standard of educational achievement reached. Students are classified as to no certificate, intermediate certificate (two standards), and leaving certificate, with honors and pass levels at the latter stage.

Teachers, pupils, parents, and employers assume that there are clearly understood and precisely defined standards for each of these categories. Instead of saying "he graduated from high school," as we do, an Australian would say "he did the intermediate certificate," or "he took his leaving certificate with honors in Latin and mathematics."

The differences in comparison with the United States system are many. Our plan is to retain everyone in secondary school for the full six years (grades 7–12) until the age of seventeen or eighteen, and to grant to all who exert reasonable effort a diploma to signify the completion of high school. In Australia the scheme is for pupils to drop off the educational train at various stations along the way, with a type of diploma at each station signifying a clear-cut differentiated standard.

It is interesting to find that some in the United States, who are troubled with our undifferentiated system, would have us move in the Australian direction. They consider that a high school diploma should be granted only to those who have attained certain standards of achievement. On the other hand, we find some thoughtful Australians critical of the sharp differentiation and rigorous selectivity at various stages of educational development in Australian secondary schools.

Each system has instructive experiences to share with the other. The similarities and differences in the basic assumptions underlying the two systems' positions with regard to the meaning of high school graduation may be summarized as follows:

America	*Australia*
In America, it is assumed that all youth are capable of profitably attending school until the completion of secondary education, a course of six years, until the age of eighteen; that they should be required to do so; that it is the responsibility of the	In Australia it is assumed that all youth are capable of profitably attending for some time the secondary school, but not for the whole of the five- or six-year period following primary schooling; some should drop out earlier than others; the

school to provide a sufficiently differentiated program so that their objective may be realized; and that there should be no differentiation in the certificate awarded at the conclusion of the time.

school can and should prescribe a definite standard and curriculum, and the time a pupil spends in secondary school is the function of his capacity and his effort; and the certificate awarded upon leaving school indicates how much he has achieved.

Each of us is inclined to feel more comfortable with his own pattern. But as we elaborate and develop our own position, it is helpful to consider another and different view, especially one that has arisen as a thoughtful, young, and vigorous democratic people, not at all unlike ourselves, have struggled with a similar problem.

R. N. B.

In-Service Counselor Training

By BARBARA A. KIRK

Mrs. Kirk comments on a study financed by the Rosenberg Foundation of San Francisco. She is presently manager of the Counseling Center at the University of California and has had over twenty years of experience in the counseling field.

In the spring of 1952, a study[1] was undertaken by the Counseling Center of the University of California, Berkeley, to determine the feasibility of instituting in-service training in counseling and guidance in the secondary schools, and to evaluate the effectiveness of certain training techniques — individual conferences, group meetings or seminars, and case demonstrations. Ten counselors, constituting the entire counseling staffs of two local high schools, volunteered to participate. Although these counselors represented all levels of training and experience, they began the study with approximately the same amount of knowledge of counseling procedures.

The literature concerning high school counseling programs abounds with articles on academic training, but little information can be found about the establishment of in-service training. Among the more useful general suggestions were those included in a committee report (1950) on "In-Service Preparation for Guidance Duties"[2] which states the necessity for identifying individual, school, and community needs, and of planning training accordingly. This report comments that the assumption that "an in-service education program is desirable does not mean that it will function effectively," and states that guidance needs and problems must be discovered, clarified, and defined before planning for utilization of time, staff, and facilities can be undertaken.

This article will consider some administrative problems that were encountered in the development and conduct of the training program. Since, however, effective counselor training can only be accomplished within a suitable counseling framework, attention will also be given to some factors in the administration of counseling itself.

Time and space consideration

In both schools, the counselors felt handicapped by a lack of sufficient time for training. In fact, because of excessive clerical duties, record-keep-

[1] This study was financed by the Rosenberg Foundation of San Francisco. Dr. Arthur L. Traphagen conducted the study and served as consultant. The complete report is entitled "In-Service Training of Secondary School Counselors—A Study of Techniques." Counseling Center, University of California, Berkeley, 1954.

[2] Federal Security Agency, Office of Education. *In-Service Preparation for Guidance Duties,* Misc. 3314-7/A, Washington 25, D.C., 1950, 33–41.

ing, and the size of the student load, the counselors considered themselves essentially programers, with little time to fulfill their obligation to help students with all kinds of problems. Each of the four counselors from one school counseled five periods a day and taught one, with case loads varying between 375 and 425 students. The six counselors from the other school, counseling from one to three hours a day, carried case loads of from 132 to 250 students. The consequent time limitations engendered in the counselors a feeling of futility toward any undertaking, in either counseling or training, which could not be resolved in a very short period of time.

In the training program, individual conferences between the counselor and the consultant were considered extremely important and profitable, but it was impossible to sustain a regular conference schedule because of demands made on the counselors' time for other activities, among them substitute teaching, working with special school events, and performing other school assignments designated by school administrators. Another complicating factor was the excessive number of holidays which occur during the school year, and especially in the fall. During peak programing periods in each semester, individual conferences were necessarily suspended entirely.

Since no time or space was available for group meetings during the school day, it was necessary to hold these meetings after school hours. Although the original plan to hold group conferences at least once every three weeks was altered in order to establish dates when all ten counselors would be free to attend, total participation was never achieved. It was found that faculty meetings, departmental meetings, teachers' extracurricular assignments, and activities or commitments in the counselor's private life became primary obstacles to the continuity of this part of the program.

In addition to problems related to time, difficulties were also met in arranging space for training. In this project, work space was often not used exclusively by a counselor, who was therefore subject to interruptions from others who used the same office area. In some instances counseling, and therefore training, took place at a desk in a waiting area; in others, the walls of private cubicles were either extremely thin or built as partitions, so that discussion could be overhead in other parts of the office. Such arrangements work hardship on counseling and are particularly difficult to overcome in training and professional consultation.

It was found, however, that limitations of time and space might be minimized. In scheduling conferences or other activities to be conducted during school hours, careful consideration should be given to the conventionalities of the schools, as well as holiday and other schedules. An analysis of most schools' activities reveals that midweek days are less affected by special events such as assemblies and rallies, but to schedule regular training activities on a Monday or Friday with the expectation of being able to continue this schedule uninterrupted is unrealistic. In an effort to solve the problems of scheduling group and individual conferences, the counselors themselves suggested that, in future programs, individual conferences be held on a weekly basis during the fall semester and that group meetings be

infrequent because of the number of holidays. In the spring semester, group meetings could be held at weekly intervals. They also recommended that orientation to the program be held prior to the beginning of the fall semester, which is the busiest time of the year.

Time and space should be made available by the school to permit professional growth through study, conferences, and in-service training. Counselors, unlike full-time subject matter teachers, usually have no free period and therefore have no time, or at best insufficient time, at school for reading, study, preparation, or consultation. In addition to scheduling time for these activities, administrators should consider allotment of space so that training can take place in privacy.

Once time has been reserved for counseling duties, the administration should respect the assignment; satisfactory counseling and training cannot take place if the counselor is likely to be called away from his work on short notice for other activities or assignments.

Increasing professional competence through training is meaningless unless counselors have sufficient time to put into practice what they have learned. It was felt that in order to derive maximum benefit from training, counselors should be assigned to at least half-day counseling. Assignments of only one hour per day accomplish little; as counseling programs presently function, it takes a counselor approximately an hour a day merely to maintain the records of the students assigned him. Moreover, the present ratio of one hour of counseling time per day for each 100 students in the school is too heavy a case load. Seventy-five students per counseling hour seems a better maximum ratio if counselors are relieved of the less confidential clerical work. If they are not relieved of clerical responsibilities, and effective counseling is desired, the load should be reduced to a maximum of fifty students per counseling hour. It is also probably advisable to assign a student to a counselor for the student's full period of enrollment in the school. The counselor will then be enabled to know the student and to work extensively with him on a continuous and long-range basis.

Administrative relationships

The attitude of the administration and counselors themselves toward counseling as a profession, as well as the function of counseling in a school, determine both the content of a training program and the sincerity of the participants. If a program is to produce results, the administration as well as the counselors must have faith in the value of counseling and the training program. This belief should be coupled with the kind of relationship between administrative and counseling personnel which will encourage counselors to modify procedures as conditions change. Without confidence on the part of the counselors that they can put their learning into practice, a training program assumes an aura of futility.

Some additional inducement, beyond the personal satisfaction of knowing one is enabled to do a better job, should be created to make continued study and self-improvement worthwhile to the school counselor. Already

many extracurricular activities are expected of high school counselors; to request them to give up more time from their private lives for professional growth is unrealistic, unless some incentive is apparent to them, as, for example, certification or some other indication of successful completion of training, or credit toward a special credential.

In the area of professional ethics, the administration should encourage counselors to keep confidential information given them by students. Use of such information in the administration of school matters makes counseling ineffective, since the counselor is likely to lose the confidence of students, faculty members, and parents.

Since most school faculties do not have a full understanding of what counseling is, and since their co-operation is essential to an effective guidance program, the entire school faculty should be oriented to the counseling program and included in the training whenever possible. For this reason, the counselors participating in this study recommended that the consultant attend faculty meetings early in the school year to explain the program; other pupil personnel workers might also be invited to these meetings. A similar plan might well be undertaken with parent organizations.

Determining the level and role of training

At the initiation of the program, the consultant gathered information concerning the counselors' background and preparation, attitudes, competence, and needs. Although careful consideration had been given to the level of training to be undertaken in this investigation, the counselors as well as the project directors had erred in assuming that the counselors could receive maximum benefit from in-service training based on consulting and referral services. The majority of the counselors who participated in the study had little theoretical training and no supervised practice in counseling; by the end of the project, it had become clear to all the participants that their real need was for basic practicum training. If a counselor has not had supervised field work or internship previous to assignment to counseling, such training, it seems, needs to be made available to him before he begins his appointment, or as soon thereafter as possible. The progress of this study emphasized the necessity for an extremely careful reappraisal of the proposed training program and the qualifications of its participants shortly after the initiation of the program.

Difficulties in providing effective training are increased if counseling assignments are made on any basis other than that of aptitude, special preparation, and interest. It became evident that a combination of good intentions and/or assignment to counseling duties is not sufficient preparation for counseling; interest in becoming a competent counselor and the intention to make counseling a career should be major considerations in personnel selection. When counseling assignments are used for any secondary purpose, such as for grooming prospective administrators, desire to become a skillful counselor may be overshadowed by emphasis on aspects more related to the counselor's true interests. In-service training should not be

instituted in order to supplant original practicum work nor to stimulate interest in counseling, but should offer continued assistance to relatively competent, well-motivated personnel.

Continued in-service training is essential in a counseling program, not only for staff improvement but also to prevent stagnation or regression. In such a program, a co-ordinator or consultant in guidance who can help institute and direct continued in-service training programs in the schools is a necessity, and should be available—if necessary, on a part-time basis—in even a small administrative unit.

ACTIVITY IN THE SCIENCE FIELD

American Association for the Advancement of Science—The Science Teaching Improvement Program of the AAAS is an action program planned to improve the quality of science teaching and to increase the number of well-qualified teachers of science, especially in the secondary schools. The program is being carried on through a grant of $300,000 from the Carnegie Corporation of New York, although additional funds will be necessary to carry out the fully proposed program.

Attention will be given to interesting high school and college students in science teaching careers, examining the adequacy and appropriateness of present offerings for science teachers, and working with schools of education to make sure that present teacher-education programs provide for adequate subject matter preparation. Efforts will be made to co-operate with appropriate agencies which are working for increased salaries for teachers. Investigation will be made of the effectiveness of using teaching assistants and instructional aids to increase teaching efficiency and provide more attractive working conditions. Special attention will be given to the problem of the adjustment of the teaching load, particularly in connection with laboratory instruction.

Attendance of teachers at scientific meetings will be encouraged with emphasis on provision for time off and reimbursement of travel expenses. A plan for public recognition by AAAS of exceptionally able teachers of science and mathematics is part of STIP. The program also includes a pilot study in four geographic regions for upgrading the work of inexperienced and inadequately prepared teachers. A more complete statement on the program may be found in the July 22, 1955, issue of *Science* and in the September 1955 issue of *The Scientific Monthly*. Copies of the pamphlet, *Science Teaching Improvement Program*, will be sent upon request. John R. Mayor, Director, STIP, 1025 Connecticut Avenue N.W., Washington 6, D.C.

Improving Attendance and Accounting in a Large Senior High School

By ALVERDA E. HERTZLER

An improved readmission card system to facilitate attendance accounting is described by the Girls' Vice-Principal at San Bernardino Senior High School. Miss Hertzler holds degrees from Wilson College and the University of Southern California.

That there is no easy way to solve attendance problems in a large high school, the administrators of San Bernardino High School have concluded, especially in the last few years of mounting enrollments. However, an improvement in procedure has brought about greater accuracy in accounting, and a remarkable improvement in several areas as compared with former years. Monthly attendance reports have shown an increase in average daily attendance which has remained consistent. Truancy has been cut to a point which would have seemed unbelievably low several years ago.

The most important of several factors contributing to the improvement has been a new attendance plan. The establishment of another high school was one factor, since it reduced student numbers by one third. However, the remaining enrollment of 2,300 is large enough to complicate attendance accounting in a high school having 400 daily classes.

To find a means of improving attitudes toward attendance and better procedures in accounting, a survey was made of attendance systems used in about fifteen schools in Southern California of approximately the same enrollment. It was found that twelve of these schools were using the same master list plan which was then in use in San Bernardino High School. In this plan, the names of all students absent the first (or second) period are placed on a mimeographed list and sent to all teachers. Only those absentees whose names are *not* on this list are reported in later periods. Many inaccuracies develop under this plan.

Three of the fifteen schools reported the use of a perforated readmission card around which was built a system of accounting which seemed much more accurate. Several members of the administration visited two of the schools using this card, Rosemead High School and Alhambra High School. The system seemed to have so many advantages over the master list plan that a similar one was worked out to fit the special needs of San Bernardino High School. In smoothness of operation and in results secured, it has exceeded expectations.

The school now has better control of attendance problems than it has had for a number of years. Teachers like the plan; they co-operate with the attendance office more fully and give much more accurate reporting. Students fulfill their responsibilities better. There are fewer weaknesses in the system; automatic checks make truancy more difficult. At any time of the day the attendance office can know definitely whether a student is in school or not, an important advantage over the master list system. The work of the attendance clerks has been simplified, the operation of the office improved.

Teachers like the saving of time effected in the recording. They report each period to the attendance office only "first day" absences. Every absence is recorded in the roll book, but only on the first day of any absence is that student's name put on the absence list. The list of these "first day" absentees is collected by office assistants each period. This list contains a teacher number, assigned each teacher, making possible a quick check on the completeness of the reporting.

Time in reporting is also saved teachers when a large group is to be out of class for extracurricular activities. The sponsor of the activity provides an alphabetized list of these students in advance. A copy of this list is mimeographed and given to all teachers, who enter "A" in their roll book. For each student out for such authorized activity, no absence report and no readmission card is necessary.

It is very important to the system that teachers use their roll books. The records in these are simple: a slanting line for absence, easily changed to a "T" if the student was tardy. When the student returns with his readmission card, an "R" is recorded on that day.

Readmission cards are made up in the attendance office for every newly absent student, from the period one absence lists. The student assistants who collect the lists, write the student's name and stamp the date on these cards. For scattered period or later absence, cards are made as the report comes in. These cards make up a file for the attendance office which is daily the basis of important checks.

On returning to school, an absentee presents his note at the attendance office. Very quickly his half of the readmission card, with the reason for absence checked, can be given him. If his absence was for one or two periods only, those periods are circled. Otherwise the card represents one or more days' absence, indicated by the dates stamped on it.

The readmission card itself provides important checks. It is divided into two halves. The left half is the attendance office record. This half contains a ruled portion with squares for each period of the day, and five days of the week. Student assistants in the attendance office write the room number from the absence list in the appropriate square, automatically indicating the day, period, and class the student missed. The failure of any teacher to report him is disclosed by a vacant square.

Any discrepancy in the amount of absence and teachers' reports shows up at once on the left-hand section of the card as the student's note and the

ATTENDANCE OFFICE RECORD

Last Name ..... First Name .....

Dates of Absence	Cause	PERIODS						
		1	2	3	4	5	6	7
.....	..... M							
.....	..... T							
.....	..... W							
.....	..... Th							
.....	..... F							

dates on his card are later checked. The recording on the main attendance card is then done from this section of the readmission card.

The right half of the card contains space for the teachers' signatures. Reasons for absence are printed on the card. The student's reason is checked by the attendance secretary issuing his card. This half of the card is collected by the last teacher to sign it, and returned to the attendance office. There it is matched with the other half, and checked to see that it is completely signed.

STUDENT READMISSION CARD

(Last Name) ..... (First Name) .....

Dates of Absence *Reasons*

1. Illness	.....	5. Emergency	.....
2. Illness in family	.....	6. Truancy	.....
3. Funeral	.....	7. Note Due	.....
4. Dentist-Doctor	.....	8.	.....

1. ..... 5. .....
2. ..... 6. .....
3. ..... 7. .....
4. .....

Note: This card must be left with the last teacher signing before absence is cleared.

The checks in the system are important factors in reducing truancies. Matching the signed readmission card with the attendance office half is necessary in a system where only first day absences are reported, otherwise the student could collect the card and be truant. It insures against irregularities, also, such as changes or forgeries on the card.

It is emphasized to the student that his half of the card must be matched with the half in the attendance office. Less than a dozen cards daily are not returned. A check is made on these the following day by a special slip sent with the student, on which his teachers indicate he is back in all his classes.

Truancy under the former attendance system often went unreported for individual periods. Students could miss single classes easily where teachers were lax about attendance procedures. A certain amount of period truancy seemed beyond control. Under the present system it is not only under control, but reduced to a minimum. Since period absence so often leads to truancy for longer periods, there has been improvement likewise in the number of students truant and in the number of days of truancy.

The attendance office file, containing readmission cards for which students have not called, is checked by the attendance secretary during the first period, before the cards of the new day's absentees are filed. For students absent more than one day, a card of inquiry is sent, or a telephone call is made to the home. The attendance counselor receives the names of those where home calls should be made.

Cards representing individual period absence are cleared daily from this file. They are sent out with the girls who collect the attendance reports, to the room which reported the absence, at the period indicated. If the report was an error, or caused by tardiness, the teacher clears the card. The inconvenience to the teacher tends to reduce errors. If the student was truant, or there was a legitimate reason for the absence, this is indicated on the card. If he was truant, this fact is revealed to the teacher concerned. The necessary check has not taken him out of class.

Improving accounting constitutes only a part of the larger task, of course, of improving attendance. Only when students are happy in their school life, feel they have subjects of interest to them, and have a sense of belonging, can the school reach its maximum in attendance. However, students' attitudes toward attendance can be improved under a system of accounting which fosters their acceptance of responsibility. Some of the former problems of dishonesty, such as destroying attendance slips and changing readmissions do not occur. The greater accuracy of the teacher in reporting discourages irregularities. The best reflection of improved attitudes is the gain in average daily attendance which has been maintained ever since the inception of the plan. Because of the smooth operation of the system, the attendance personnel have more time for the larger task of seeking the causes underlying the poor attendance of individual students.

SOURCES OF TEACHING MATERIAL

The 1955 revision of *Sources of Teaching Material*, by Catharine M. Williams, is now available from the Teaching Aids Laboratory, The Ohio State University, Columbus 10, Ohio. It includes information on the following topics: References on Utilization; Catalogs and Other Sources of Films, Filmstrips, and Slides; Radio and Television; Educational Recordings; Free and Inexpensive Teaching Aids; Materials for the Study of Other Nations; Pamphlets; Flat Pictures, Charts, and Maps; Other Audio-Visual Materials; and "Keeping Currently Informed." Price, 1–9 copies, 50 cents; 10–19 copies, 40 cents; 50 copies or more, 35 cents.

Personal Adjustment Courses in California Junior Colleges

By WINIFRED LANCASTER

Winifred Lancaster has been president of the Santa Barbara County Mental Hygiene Society as well as of the Santa Barbara affiliation of the American Psychological Association. At Santa Barbara Junior College Miss Lancaster is Dean of Students and Assistant Director.

What is the prime cause of job failure?

What health problem is overtaxing our hospital facilities?

Four out of five job failures trace back to personality factors, and more than half our hospital beds are occupied by mental patients. These are staggering and sobering statistics to confront educational agencies as they cope with the current social scene.

California's junior colleges are well aware of the significance of these problems. Into their care comes a large proportion of the state's young adults at an age when life's pressures push hardest.

One approach to these problems is through courses in psychology, particularly those designed for purposes of group guidance. To explore the number of such courses offered, the Sub-Committee on Personal and Social Adjustment of the General Education Committee of the California State Junior College Association recently sent out a questionnaire to the state's junior colleges inquiring about offerings in psychology in personal adjustment.

Specific questions were asked about each course: title, number of units, hours per week (lecture, lab, discussion), scope, whether required or elective or by specific referral, type of students, type of training of instructors, text used, correlation with the formal counseling and testing program of the college, and whether the course was proving satisfactory. A further query was made about whether such group guidance techniques help the individual guidance program.

Twenty-four questionnaires were returned. In tabulating some of the data, these answers were supplemented by material from the catalogues of thirty-one other colleges, (some error is introduced by this procedure, since not all courses listed are actually offered; but, comparison with catalogues for schools returning questionnaires did not show the discrepancy to be great).

General Findings of the Survey

Every school offers at least one introductory 3-unit course in psychology; the course number varies but the content seems approximately the same. Three-fourths of the schools (41) offer a subsequent 3-unit course, but this course has variable content. The schools in the north follow the Berkeley pattern of general and experimental emphasis, and those in the south the UCLA. They stress the physiological.

Only one school currently offers nothing but the introductory course and it plans to expand its curriculum in the near future. Only three schools giving both courses (or equivalent) offer no other psychology courses, while ten of the thirteen giving the introductory but not the second course, do provide other courses.

Psychology of Personal and Social Adjustment is the next most popular course. Offered by just under two-thirds of the schools (34), it is usually a one-semester course for three units but in some cases for two units. Schools seem equally divided between setting the introductory course as prerequisite or establishing no prerequisites. In five instances, the course is required for the A.A. degree. Twenty-four colleges bolster the course with additional courses in Orientation, College and Study Techniques, and Career Planning. These are credited for one or two units and in the majority of cases apparently last throughout the semester.

The next most widely represented field is Applied and Industrial Psychology (18 schools). Then comes Child Psychology (13 schools). And, finally, there are a few offerings in Social and Abnormal Psychology, and Statistics. Child Psychology tends to be many-faceted, two schools offering as many as five such courses. The other fields productive of several courses are the practical ones of vocational planning, reading improvement and personality development. (Courses in Marriage and Family, or Leadership are not listed here since they frequently fall under other departments.)

Details About Courses

Introductory Psychology (or equivalent): This is predominantly a three-hour-a-week mixed lecture-discussion type of course, although at least one school holds it five times a week and one four times, with laboratory. It is required of all students in three cases, for certain majors in other cases, by teacher referral in one. Three schools ask for sophomore standing. Two apparently limit it to transfer students and offer a terminal type course as substitute. Predominantly, however, it is an elective course open to one and all. Just over half the instructors are regular faculty, ten have counseling duties in addition, another is a department head, and two others administrators. The instructors are especially trained in psychology in little more than half of the cases (13). Class size ranges from 10 to 100, with a median of 45–50. Ruch's *Psychology and Life* is by far the most common textbook. Hilgard's *Introduction to Psychology* is used by five

departments, Stagner-Karwoski by two, and Munn, and Brown and Gilhousen, each by one. Most instructors gear the course to general education, although one-fifth of the questionnaires check it as specialized departmental.

As to correlation with the college's formal counseling and testing program, only four of the schools indicate any psychological testing within the course (and that only partial), and only two indicate any use of data from high school cumulative records. Where used, however, a wide variety of group tests are employed: scholastic and reading ability, study skills, special aptitudes, temperament, and interest inventories. Orange Coast College makes the course its prime group guidance technique.

The vast majority of instructors are satisfied with the course as is. One, however, would like to include laboratory work, another to make separate classes for transfer and terminal students, and a third to do a better job of introducing psychological principles as they can aid the individual.

Second Psychology Course (or equivalent): This is usually a three-hour-a-week lecture-discussion type course, with occasional demonstrations. In one case it is taught five times a week, with lecture, laboratory, and discussion. It is a variable course which may or may not have the introductory course as prerequisite. The type of instructor is the same as for the introductory course, except for fewer counselors. The students tend to be more transfer than terminal and the classes average slightly smaller (about 40). A wide range of textbooks is revealed: Ruch; Hilgard; Brown-Gilhousen and Mount; Munn; Marcuse; Cruze; Boring, Langfeld and Wald; Wanger et al.; Schnierla and Crofts' *Experimental Psychology*. The course is treated more as specialized departmental and less as general education. Only one school administers psychological tests in it, and these are limited.

Psychology of Personal and Social Adjustment: For this course, three hours a week is customary, with two the next common, and in one school at least five. It is usually given each semester, and is required in one-fifth the cases, "urged" in one, by teacher referral in two. Counselors and teacher-counselors predominate as instructors, with administrators in three colleges. Only a little more than one-third are checked as especially trained in this area. Class sizes range from 17 to 60, with usual limits set at 35 to 40. Texts are diverse: Lindgren, Crain, Wrenn and Larsen, Cole, Lehner, Vaughan, Mikesell and Hanson, Bernard, Thorpe, Barnett, Sappenfield, McKinney, Patty-Johnson, Armstrong. One school uses this course for its major testing program but almost half the schools do some partial testing here, with an even wider assortment of tests than for the introductory course. In five instances, high school cumulative records are consulted. Emphasis is almost always on general education. Only half the respondents are satisfied with this course: they would like better texts, better manuals, better organization, more class discussion, separation of students according to departments of interest (business, trade, etc.).

Orientation, Vocational Planning Type of Courses, etc.: The class sizes run 30 to 50. The instructors tend to be counselors or administrators. Partial testing is the usual procedure. The chief desires for change are for materials more specific to particular groups (i.e., engineers), more job contacts, and better interpretation to individuals.

Other Courses: Since the other fields of psychology are not concerned primarily with personal and social adjustment, these course offerings will not be reviewed here.

Implications of Group Guidance for Individual Guidance

The consensus is that classes adapted to the function of group guidance do help the individual guidance program. They "establish rapport, save time, and give counselor an opportunity to see student in actual classroom." They help "set the stage for individual conferences by stimulating interest," and they develop rapport between counselor and counselee "by increasing insight." They "allow discussion of problems common to several persons and thus relieve the counselor of repeating information to each student individually."

These values obviously obtain principally where the instructor is the students' counselor. They gain added stress when a test interpretation review is required and preparation for the review is achieved in the course. The need for small-size classes if a good job of such guidance is to be done was commented upon, also the need for a "dynamic, qualified instructor."

Summary

Apparently all California junior colleges offer a one-semester introductory course in psychology, and three-fourths of them add a second semester. Most of them consider the first semester to be of general education value, and some use the course as a principal guidance technique and as a means of furthering the college's testing program. The second semester, highly variable in content, is more apt to be viewed as specialized and departmental in nature.

Two-thirds of the schools also give a course in Personal and Social Adjustment. This course tends to be keyed more naturally to the over-all counseling program, with counselors and teacher-counselors predominating as instructors. It is almost unanimously viewed as general education. One-fifth of the responding schools universally require the course; others use "urging" or teacher referral. Much more dissatisfaction is evident with this course, however, than in the case of Introductory Psychology. Better texts, more time for class discussion, smaller classes, selectivity of students, are wanted.

In almost half the instances instructors are checked as not especially trained for any of these courses. Respondents seem generally committed to the idea of group guidance as a valuable adjunct to the college's individual guidance program. How well the courses as now presented succeed in attaining this goal poses another question.

Career Planning and the New Reserve Forces Act

By BRIGADIER GENERAL CLAUDE F. BURBACH

General Burbach has a special interest in encouraging high school counselors to secure accurate information about the new Reserve Forces Act. General Burbach is Chief of the California Military District, U.S. Army.

Students are still asking counselors if it is better to "go in and get it over with or should I try the Reserves?" So says Dr. Clifford P. Froehlich, president-elect of the American Personnel and Guidance Association, commenting on current events and trends in student guidance in the January 1956 issue of this journal. Their very question reveals an erroneous concept of the effect of the new law upon their future military service—a misconception it is to be hoped that is not shared by their parents, teachers, and counselors.

Before the opportunity for career planning afforded by the Reserve Act can be appreciated, it must be understood that enrollment in the Reserve for most young men is no longer a *question*! It is the *answer* to the military uncertainties of our times which were envisioned by Congress when the Reserve Forces Act of 1955 was framed. By law, *all men entering active service in the Armed Forces after 9 August 1955 have a 6-year duty to perform—part of which will be spent in obligatory training with a unit of the Ready Reserve.*

Neither the draftee nor the volunteer for active service can "go in and get it over with." Upon completion of two years of active service, they will spend three years in the Ready Reserve, subject to recall to active duty in an emergency declared by the President. While in the Ready Reserve, they will be required to attend forty-eight two-hour drill sessions and up to seventeen days of field training at summer camp each year. For the final year of their six-year duty, they will be transferred to the Standby Reserve, where they will not be required to train and will be subject to recall only in an emergency declared by Congress.

Once a student realizes that obligatory reserve training is now an integral part of the six-year military duty which every man assumes when he volunteers or is drafted for active service, he can intelligently consider a more pertinent question: "How can I fulfill my military obligation at the earliest age with the minimal interruption of my education and employ-

ment?" So re-oriented, he still has an important question. As Doctor Froehlich points out, the answer can affect his entire career. He needs accurate information from an adviser who is thoroughly familiar with the voluntary options of the Reserve Forces Act.

Of primary concern to high school counselors is the option which permits a student between the ages of seventeen and eighteen and one-half years to volunteer for an eight-year reserve obligation that will exempt him for the draft throughout his career. Currently, this option is open only in the Army and Marine Corps. Here is how it would work in the case of a 17-year old high school senior who wants to go to college and be an engineer.

Without leaving high school, he can join an engineer unit of the Ready Reserve in his home town today. Immediately he will reduce the age at which he will complete his military duty to twenty-five—an age at which many young men who have waited for the draft are just beginning their service. Between now and next June when he graduates from high school, he will attend one two-hour training meeting each week for which he will receive a full day's pay.

In July, he will begin six months of active duty for training at Fort Ord. During this period he will NOT be in the active army, but will be paid $50 per month in addition to receiving his food, clothing, lodging and medical care. The first eight weeks will be devoted to basic training. After a two-week leave, he will go on to advanced training at the Engineer School in Fort Belvoir, Virginia, returning home in December in ample time to enter the January freshman class of his college or university.

While he continues his education, he will be required to attend weekly training sessions and summer camp with his reserve unit, but he will find that much of what he learns in college will help him win promotion (and higher pay) in the reserve—including a commission as an officer if he has the requisite leadership potential. Conversely, he may find that his reserve training sessions and engineer field training will help him achieve higher grades in school, since many of the subjects taught will be related.

Upon graduation from college, he will be a good job risk for any employer—unlike his classmates who will be liable for the draft at any time. He will be able to continue to plan his career with complete assurance that nothing short of a national emergency can disrupt his life. At age twenty-five his entire service obligation will be ended—though he may continue in the reserve and earn a substantial retirement income at age sixty if he desires.

Should he change his place of residence while he is a member of the Ready Reserve, he would be transferred to another reserve unit in the new locality. Reserve units are located in every sizable community in the United States. If the nature, hours, or location of his employment should make it impossible for him to participate in the weekly training sessions, a thirty-day training period each year may be substituted. If he should acquire a skill which is critical in our national defense or enter an activity essential in the support of national defense, he will be transferred to the Standby

Reserve for the remainder of his reserve obligation providing he continues to engage in such work.

Once entered upon, the Reserve obligation is enforceable. If a member of the Ready Reserves fails to participate in the training of his unit, he may be ordered to active duty for forty-five days each year. In the case of the eight-year volunteer, he may be discharged from the Reserve and become liable for immediate induction into the active service.

When a student or counselor considers the pros and cons of the volunteer option, he should also consider the alternative when military service is left to chance. The student who passes up this opportunity now will never know from one day to the next during his next ten years when his career may be interrupted by induction for two years of active service—plus three years of the same obligatory reserve training for which he could have volunteered.

Counselors, who have seen the effect of this day-to-day uncertainty and the two-year interruption upon the careers of our youth during the last decade, generally agree that six months of training between high school and college (or job) is the more desirable in achieving career goals.

The importance of the counselor's advice to young men of military age is obvious. It is necessary that he be properly equipped with the latest information on all facets of the service obligation. These facts can be readily obtained at the office of the Army Recruiter in the counselor's area or the reserve component training center. Telephones are listed under United States Government in the phone book. The Army Recruiter or Reserve Adviser is willing and capable of assisting. He hopes counselors will call upon him.

EDUCATORS SEE JUNIOR ACHIEVEMENT MEETING GOAL OF "ECONOMIC EFFICIENCY"

High School boys and girls participating in Junior Achievement's business training program are advancing toward the goal of "economic efficiency," an objective set by the Educational Policies Commission, according to Under Secretary Herold C. Hunt of the Department of Health, Education and Welfare.

Dr. Hunt expressed this view in Washington before a recent (Feb. 1) conference of business, education and government leaders. The Junior Achievement program puts boys and girls from 15 to 19 into business for themselves to learn about business through practical experience under the guidance of adult advisers. Dr. Paul E. Elicker, Executive Secretary, National Association of Secondary-School Principals, agreed with Dr. Hunt.

> "Junior Achievement gives teen-agers an understanding of business and its procedures," Dr. Elicker said. "It inculcates in young people a sense of responsibility.
>
> It gives them a chance to succeed as the result of their own initiative and endeavor. It's a good program for our youth."

Dr. Hunt addressed the conference not only as a federal official, but also as the former General Superintendent of Schools in Chicago and "through the intimate eyes of a father whose son has participated with great benefit in Junior Achievement."

Current Events and Materials in Science

By OREON KEESLAR*

Current Events in Science Teaching

The fourth *National Convention of the National Science Teachers Association*, a department of the N.E.A., was held this spring in Washington, D.C., March 14–17, and was devoted to the theme, *Problem Solving: How We Learn.* The N.S.T.A., under the leadership of its president, Dr. Robert Stollberg of San Francisco State College, and its executive secretary, Mr. Robert H. Carleton of Washington, D.C., has been stressing this aspect of science education increasingly during the past months through speeches, workshops, pamphlets, and magazine articles.

The campaign to orient the membership for the fourth national convention culminated in the publication of a symposium on "Problem Solving in Science Teaching" in the February 1956 issue of *The Science Teacher*, the Association's journal. This symposium included an exceptionally fine lead article by Ernest E. Bayles (University of Kansas)—"Is Science Teaching Scientific?"—which challenges teachers to re-examine their reason for being science teachers, particularly their conception of what should be taught in science, their own habits of mind, and their methods of going about science teaching. Other authors discussed the possibilities of improving students' skills in problem solving through a direct study of the elements of scientific method and through actual practice in problem situations in elementary science, and in high school biology and physical science. Bases for evaluating the results of such teaching were suggested by two authors, and the symposium concluded with an excellent, though brief, annotated list of references on problem solving.

The Ominous Ground Swell

Certainly the most significant development in science education today is a "grassroots" movement from outside the teaching profession, which stems from the critical shortage of trained scientific and engineering personnel for our nation's industries. Of late there has been a growing chorus of worried voices from military, government, and industrial spokesmen calling for more and more young scientists to man our research laboratories, particularly in the fields of aeronautics, electronics, metallurgy, and atomic energy. Engineers are needed to design, build, and operate pilot plants and full-scale industrial operations, and an equal number of technicians are in demand to service the machines of the production lines and carry on the increasingly technical operations which as yet defy automation.

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As recently as December 1955, the National Association of Manufacturers published a report of its Research Committee, which had accumulated extensive information on the shortage mentioned.[1] The committee presented these facts:

1. The United States presently has an unfilled demand for 50,000 additional scientists and engineers. Further, we require 50,000 trained persons annually, but are graduating only 40,000.
2. The shortage of scientists and engineers begins in our high schools, and even in our elementary schools. Not enough boys and girls are entering these fields, largely because of a deficiency of trained science teachers. One estimate says that because of the teacher shortage, 50 percent of our high schools do not have classes in physics or chemistry. Even among those teachers who are trained in science, there are not enough who attract and inspire the student.
3. College graduates in science and engineering are drawn to industry and not to teaching, principally because of salary schedules. In 1954, our colleges graduated 57 percent fewer high school science teachers and 51 percent fewer mathematics teachers than in 1950. Industry can pay more than the schools, and may thus be consuming its own "seed corn."
4. A secondary, but very important, consideration is that the teacher has not been accorded proper recognition and status in his community.

The committee concluded that industry, one of the principal beneficiaries of science and engineering, *should* and *could* do most to remedy the shortage, if each member company would assist the high schools in its own community. It suggested that businessmen and industrialists take an active interest in the science teacher "as the focal point of our educational system" by giving him public recognition as a valuable member of the community and of the scientific team, by getting acquainted with him personally through Business-Industry-Education Day visits to industrial plants and return visits to schools, and by assisting him in his in-service education through demonstrations of new developments in science at special teachers' meetings or through paying his way to national professional meetings. Businessmen could also run for school boards in order to make a teacher's salary "adequate for the social status he is expected to maintain." They might possibly employ teachers during summer months as a supplement to income, and contribute scholarship funds for advanced training of teachers in summer schools and summer institutes. (The committee pointed out that "the average income of the dentist is 2.5 times that of the teacher, the lawyer 2.7 times and the physician 4.2 times as much.")

The N.A.M. Committee similarly suggested these aids be given to the

[1] National Association of Manufacturers, *Tomorrow's Scientists and Engineers, A Survey of Industry's Support of High School Science*, a 15-page free pamphlet (2 East 48th St., New York 17, N.Y.).

science student himself, as a potential scientist and engineer: vocational guidance through Career Days and tours of industrial plants; stimulation of interest through Science Fairs and other forms of competition in scientific projects; and financial assistance through summer jobs in laboratories and plants, and college scholarships.

For the school, it suggested serving as members of P.T.A.'s, or as assembly speakers, and giving financial assistance through outright gifts of equipment for laboratories, books and magazines for school libraries, and through scholarships.

Responses to these proposals are now being voiced throughout the country. Educators are being approached from all sides by heads of industries, industrial physicists and chemists, and lay groups of various sorts, all intent on "doing something" about the recruitment of capable young people of high school and college age for careers in science, engineering, and teaching. These concerns are intensified by reports of what the Soviet Union is doing to further the training of its youth as specialists in science and engineering.[2]

Shortly after N.A.M.'s report was published, David Sarnoff, chairman of the board, Radio Corporation of America, proposed the release from industry of a number of physicists, chemists, engineers, and mathematicians to teach in local high schools "with full pay for at least a year," thereby establishing what he called a "national educational reserve" of scientists for the classroom.

On March 3, 1956, Mr. Robert H. Carleton, executive secretary of the N.S.T.A., issued a statement in reply to Mr. Sarnoff's "lend-lease" proposal, terming it "ill-advised" and stating that it "promises nothing to help correct the fundamental cause of our current problem." Pledging N.S.T.A's readiness to participate in any objective and serious study of Mr. Sarnoff's idea, Mr. Carleton posed the following questions: Would "lend-lease" scientists be available and willing to serve in communities where science teachers are most needed, regardless of size or location? If industry's need for scientists is as critical as reported, how can companies afford to release a "qualified" scientist for a year without serious interruption of the research and/or development of projects in which he is engaged—perhaps as a member of a team? How many scientists are qualified to step into teaching positions for a year—and to do the job teaching requires today?

Mr. Carleton drew a graphic picture of the highly specialized, well-paid chemist, for example, stepping into a small high school, keeping records for a home room, serving on faculty committees, attending P.T.A. and teachers' meetings, coaching the basketball team or junior class play, serving as adviser to a student organization, handling study hall assignments and lunchroom duty—and teaching general science, biology, and perhaps mathe-

[2] See "The Golden Youth of Communism," *Life Magazine*, Vol. 40, No. 10 (March 5, 1956), pp. 31–37.

matics, in addition to a section in chemistry (his specialty)! We might join Mr. Carleton in wondering also how long it would take such a chemist, completely untrained for teaching, to discover that a university professor's lecture techniques do not work very well in today's schools for all the children of all the people.

In a counter proposal, Mr. Carleton invited industrialists, businessmen, scientists, and all other science-conscious citizens to "join forces in a vigorous action campaign to achieve as nearly as possible in every community the goal of the National Education Association for a salary schedule for teachers ranging from $4200 to $9500." He went on to say that we are losing about 50 percent of each year's output of trained and certificated science teachers, largely because they simply cannot afford to take teaching positions at present salary levels. Rather than compound the crisis by drawing upon the present inadequate supply of scientists and engineers in industry, we should recruit the needed science teachers from among the finest young people now entering college, give them the best professional training possible (perhaps with financial aid from industry and business), and—if the science teacher is truly a member of the scientific team, as many have recently proclaimed—then let us treat him, and pay him, as though he were just that!

Space permits mentioning only two illustrations of industry's efforts to improve science and mathematics teaching in our high schools: The Shell Foundation has provided the funds for a Merit Fellowship Program for the 1956 summer sessions in two universities (Cornell and Stanford) for teachers and supervisors of science and mathematics. Thirty fellowships are being awarded this year at each of these universities, providing a specially designed program for master teachers to renew their competence in their fields and "get caught up" on late developments in science and industry. There will be seminar-type courses, lectures, visits to research and production establishments, informal discussions with outstanding scientists, mathematicians, and educators, with opportunities to pursue special projects relating to classroom instruction. Not only are tuition, books, board and lodging, and a travel allowance provided, but an added $500 is allowed for each participant to help make up for the loss of potential summer earnings! Dr. Paul DeH. Hurd of the Stanford School of Education is the director of the Shell Merit Fellowships for all of the United States west of the Mississippi.

A second important instance of industrial assistance in sponsoring teacher-training programs is the West Coast Science Teachers Summer Conference, held in the summer of 1955 at San Jose State College and to be carried on this year (June 17–30) at Oregon State College, Corvallis. Jointly sponsored in each case by the host-college, the Crown Zellerbach Foundation, and the Future Scientists of America Foundation of N.S.T.A., the workshop provides thirty-two $200 fellowships for teachers in grades seven to twelve in schools in Washington, Oregon, California,

Utah, Arizona, and Nevada. These will work as a research team on the subject of "Science Projects as Stepping Stones to Careers in Science."

The Present State of Affairs in Science

In spite of the genuinely effective efforts of the Elementary School Science Association to stimulate interest and self-confidence in science among the elementary school teachers of this state, many teachers still fear the subject, with the result that elementary science is often neglected in favor of other better-known and understood areas of subject matter, or it is not even taught at all. Consequently many of our elementary school children enter high school with little more than the most sketchy and meager experience in science—only *incidentally* taught if at all.

The record of high schools is somewhat better than elementary schools, with a fair offering of courses in science. However, there is ample evidence that high schools have been selling science short for many years, representing it to students as a "difficult" subject. Where there should be enthusiasm for the subject, there are dwindling enrollments in most of the elective courses, particularly in the physical sciences. Most significantly, of the 190–220 semester units required for graduation from a California four-year high school, in most cases only 10 units (5 percent) must be earned in science! A one-to-twenty ratio can hardly be justified, particularly in this "atomic" age when scientific knowledge is burgeoning as it never has before in the history of mankind—when the impacts of science and invention (technology) are being felt upon practically every aspect of our culture!

It is precisely on this point that educators in general, and high school administrators and science teachers in particular, may be properly embarrassed, should a public board of inquiry ever seek to determine the contributing factors in the present serious shortage in trained personnel for science and engineering. By what logic is the value of science in the general education of high school youth considered to be only enough to warrant devoting ten semester units to it out of two hundred? Why have not those with special talents for science and mathematics been identified early in high school and given the special instruction and the enriched curriculum that their abilities call for?

Science for the Gifted

Paul F. Brandwein, *The Gifted Student as Future Scientist*. New York: Harcourt, Brace and Company, 1955. xvi + 107 pp. $1.50.

This book is recommended highly for teachers and administrators who are endeavoring to work out a local program in science for gifted high school students. The author warns that there is no way of doing what is needed in such a program. He adds that the plan currently in operation at Forest Hills High School (New York City), of which he writes, took

twenty-five years to develop, and should not be taken and applied in any other situation without careful and proper adaptation.

Brandwein first outlines a "conceptual scheme" for determining the nature of giftedness or high ability in science based on three factors which he defines as *genetic* or hereditary, *predisposing* or psychological, and *activating* or environmental (the school and the teacher). High intelligence, he insists, does not make a youngster a scientist. Then he describes the Forest Hills High School science curriculum, its rating scales and tests, the distinctive behavior observed in the gifted youngsters at work, and finally the kind of teacher who seems to be most successful in working with high ability students in science—these will all prove useful criteria for the administrator who is setting up such a program.

Paul Witty and Samuel W. Bloom, "Science Provisions for the Gifted," *Exceptional Children* 20: 244–50 (March 1954).

The authors briefly document the national need for trained scientists, which began to be felt acutely about ten years ago (1946), and suggest sources of materials useful to science teachers and vocational counselors in identifying youth highly gifted in science and explains ways of guiding their educational careers. They further describe the practices in twelve different high schools in selecting and encouraging the gifted in science.

Paul Witty and Samuel W. Bloom, "Conserving Ability in the Sciences," *Exceptional Children*, 22: 10–16 (October 1955).

As a follow-up to the preceding article, the authors discuss the trend toward greater use of *acceleration* and *ability grouping* in caring for the gifted pupil, and the areas of need revealed by the drop-out problem among these students. Then they present the results of a study of seven representative high schools from a list of twenty-four whose graduates had shown outstandingly successful achievements in science. The six "common features" in these seven programs are listed, and may be considered practices worthy of emulation.

Paul Klinge, "Working with Gifted Science Students in Secondary Schools," *Science Education*, 38: 217–24 (April 1954).

This article describes in some detail the program in science that is being developed for gifted children in the Thomas Carr Howe High School in Indianapolis, Indiana.

For Vocational Counseling in Science Careers

Future Scientists of America Foundation, *Encouraging Future Scientists.* Washington, D.C.: National Science Teachers Association, 1201 Sixteenth Street, N.W. 24 pp. 50 cents.

This pamphlet, published in revised form each year, is most valuable as a source of addresses from which career-counseling materials for science

students may be procured, lists of scholarships and contests in science, and other opportunities of benefit to both teachers and students.

To Enrich the Science Program

Science Clubs of America, *Sponsor Handbook, 1955 Edition.* Washington, D.C.: Science Service, Inc., 1719 "N" Street, N.W. 64 pp. $1.00.

A veritable gold mine of information for leaders and club members in the 15,000 science clubs throughout the United States and abroad—a membership which makes Science Clubs of America the largest scientific organization in the world! Its contents range from suggestions for organizing a club (name, sponsor, meeting time and place, constitution, officers, etc.), through hundreds of ideas for club activities, club co-projects (carried on co-operatively with nationally known scientific organizations), science fairs, sources of free and low-cost materials, and individual science projects.

The following three books are also available from Science Service, Inc., 1719 "N" Street, N.W., Washington 6, D.C., at $2.00 each, cloth bound:

Helen Miles Davis, *Science Exhibits* (1955), 96 pp.

Written for teachers and students who are in search of ideas for exhibits at Science Fairs, this book is a rich source of information on student projects for open-house nights, science club meetings, and on how to organize and stage a fair. An excellent "how-to-do-it" manual.

Helen Miles Davis, *Scientific Instruments You Can Make* (1954). 96 pp.

Describes some of the scientific instruments built by winners and honorable mentions of recent Science Talent Searches: spectroscope; astronomical instruments; Tesla coil; oscilloscope; cloud chamber; atomic particle counters; Van De Graaf generator; ultrasonics; stroboscope; and electronic computers. Not strictly a "how-to-do-it" book; nevertheless it will give young scientists fine ideas for experimentations.

Burton L. Hawk, *The Chemistry We Use* (1953). 87 pp.

An extremely useful book to have at hand to give a high-ability chemistry student something "practical" to do in a home laboratory—an excellent guide for him to enrich his independent studies in chemistry.

For the Science Library

Florence Liston and George Woodsum, "An Inexpensive Scientific Library," *The Science Teacher* 22: 238–39 (October 1955).

For those teachers and administrators who wish to acquire a science reference library of more than one hundred volumes for a total cost of only $45.00, this article presents a suggested list of titles compiled by two graduate students for Dr. Fletcher G. Watson of Harvard University. These are the inexpensive paperback pocketbooks published by Penguin

Books, Inc., Pocket Books, Inc., Anchor Books (Doubleday & Co.), and Mentor and Signet Key Books, and the titles cover a wide range of subjects from philosophy and health, to beekeeping and mineralogy.

Louis Panush, "New Books for the High School Science Shelf," *School Science and Mathematics*, 54: 371–76 (May 1954).

An annotated bibliography that is considerably more "weighty" in its subject matter and perhaps somewhat less interesting to the high school student than the "pocket books" listed above. Worthy of review by anyone who seeks to extend his collection of good books for reference and collateral reading in science.

For Planning Future Science Classrooms

Paul DeH. Hurd, *Science Facilities for the Modern High School*, Educational Administration Monograph No. 2, Stanford School of Education, 1954. Stanford University Press, $2.00.

An excellent reference for science teachers and administrators faced with the task of planning the science rooms and laboratories of a new high school plant. Prepared as a publication of the Stanford School Planning Laboratory, it outlines the educational specifications for modern science teaching, the latest trends and developments in high school science teaching, and some of the special requirements for the biology-general science room, physical science rooms, and auxiliary rooms (storage, project or preparation, darkroom, offices, museum, and greenhouse), as well as giving seven different floor plans for such rooms. A master check list of science facilities, to prevent possible oversights in plans, is also provided.

For Reference on Current Practices in Science Teaching

Bulletin of the California State Department of Education, *Science Instruction in California High Schools*, Vol. XXIV, No. 3 (July 1955).

Based on the 1953 October Reports of High School Principals, this bulletin presents information as to the *status quo* of science curriculums and the objectives, methods, and materials of science instruction in high schools throughout California—the textbooks used, the courses of study offered, the requirements for graduation, and other interesting data.

This study gives solid evidence of *what is being done* in science in this state, but does not presume to evaluate the merits or deficiencies of the program of science instruction as a whole. This vital step has never been taken, although, in fact, it is much needed today. The statistical facts are here marshaled and organized in excellent fashion for the purpose, but they are not interpreted or evaluated in terms of the current public needs or of the values commonly held today for the education of American youth.

Such evaluation should be carried out without further delay by qualified representatives of the high school districts of this state, in co-operation with the State Department of Education.

What's Happening in California Secondary Schools

By WILLIAM N. McGOWAN*

A need is being recognized in California to offer more services to adult education programs. Increased services from County Schools Offices are possible under Chapter 8.1, Article 1, Section 9501, of the Education Code. The office of the Tulare County Superintendent of Schools has seen fit to provide improved services in adult education by increasing the responsibilities of the secondary co-ordinator to include attention to adult education. There will be no change in present secondary services from the county office, but Dr. Bob Rothschild, secondary co-ordinator, will add to his present duties those as co-ordinator and consultant in adult education.

What's Happening in Junior High Schools

"Round the Clock at California Junior High School," Sacramento, was the title given to the auditorium program presented for parents' night during Public Schools Week, 1955.

The visual part of the program consisted of over one hundred colored slides picturing the school, grounds, classroom recitations, cafeteria, and student activities. These pictures were taken by three teachers who are expert amateur photographers.

The head of each departmnt was asked to write briefly of the aims and objectives of his department's curriculum. This was woven into a script, the whole of which was tied together by the "Voice of the Building." The script was read by two student narrators, and a third student voice, the "Voice of the Building," came from a microphone concealed in the wings of the auditorium. This voice moved the audience "Around the Clock" of the school's activities, beginning with 5 a.m., when Ben, the head custodian arrives. This was followed by slides of classes starting the day, lunch hour, noon activities, afternoon session, and the closing of the building at 10 p.m. by the late custodian.

Community response was excellent, even to the inspiring of a school hymn written and dedicated to the student body by a citizen of the community who has no children, but who attended the program.

Also at California Junior High School in Sacramento, an interesting project is under way in the use of two new tools for teaching mathematics. These tools are a *Numberaid* abacus and a Burroughs hand-operated adding machine. Use of these tools has proven of great help in developing a real understanding by students of our number system and the fundamental operations that are the basis of all mathematical work. The six classes at California Junior High School participating in the project all use the thirty-

* Executive Secretary, California Association of Secondary School Principals.

five machines available to them. Pupil desks are the movable type and are arranged for a part of the period into groups of five or six. Membership of the groups changes from time to time so that each class member has an opportunity to work with every other class member, but for the greater part of the time the class is grouped according to ability. One teacher draws the following conclusions from the program:

It promotes clearer understanding of our number system.
It is a powerful aid to class discipline.
It demands attention and responsibility from the student.
It furthers a grasp of problem analysis.
It insures a higher degree of accuracy in work done.
It heightens student interest in mathematics.
It secures a reasonable prospect of success for every student and an impressive degree of success for abler students.
It promotes a fine and co-operative class spirit.

An article giving a more comprehensive view of this program will appear in a forthcoming issue of the *Journal.*

What's Happening in Four-Year and Senior High Schools

The deans at *San Leandro High School,* a school of some two thousand students, found that they were only acquainted with about one-quarter of the student body. The boys and girls they could call by name were those sent for discipline, or a few of the others who were interested in activities or student government.

In order to get acquainted with the youngsters, the deans decided to interview every student. This proved to be quite an undertaking because of lack of time and frequent interruptions.

Interviews were scheduled every ten minutes for three of the six periods during two or three days a week. Passes stating student's name, time, and place were put in the teachers' boxes before school on the day of the interview. Interview notes were made after each student left and these reports were sent to the counselors.

Results:

1. Students know a personal interest is taken in each one of them.
2. Students feel free to drop in to see the deans for a visit or to discuss their plans or problems.
3. Good relationships resulted even with those who usually saw deans for discipline only.
4. Parents have phoned expressing appreciation for interest in their children.
5. Helps keep the deans human!
6. The deans are now ready to start all over again and do some follow-up on their interviews.
7. It is fun and worthwhile. Try it!

The Business Education Department of *Mira Costa High School, Manhattan Beach,* is holding a series of workshop meetings on the subject of General Business. The meetings are under the supervision of Mrs. Catherine McVey, girls' vice-principal and curriculum supervisor.

The decision for holding the workshop grew out of a felt need for improvement in the methods of presenting the General Business course to ninth grade students, for enrichment of its materials, for developing better means of relating the subject matter to the student's local environment, and for preparing a guide for new teachers of this subject.

A few of the objectives are: (1) to provide a teacher's guide that is adequate in scope and that may be followed with more efficient preparation; (2) to provide a teacher's guide that will permit flexibility in planning, yet insure continuity of thought and content; (3) to help adapt the text to the needs of the students; (4) to survey and select the most appropriate supplementary materials, visual aids, and community resources and to incorporate these into the teacher's guide.

At Mira Costa, twelve units are taught in the General Business course. In order to adequately search for, organize and present the desired materials, the following organization seemed necessary and was thus created: A chairman and a secretary were elected; the six teachers in the department were organized into three committees, and each committee selected four units in which they were both interested and well informed on which to work.

At a later general session it was decided that the most effective approach would be to set up areas to be covered, and detailed steps to be followed. It was found that the materials to be gathered would come under the following headings: "Things to Do," consisting of activities, projects, research for students to perform with the use of supplementary or standard materials; "Visual Aids," consisting of films and film strips related to the unit under consideration, and ideas and plans for bulletin board displays; "Community Resources and Reading References," consisting of selected forms, maps, and charts available from private or educational channels which the student may secure, or which may be secured for his use by the department for the study of a given unit.

In addition, short surveys are being worked out for measuring the knowledge the students have at the beginning of a unit to assist the teacher in more intelligently planning the content of each section. For evaluative purposes, other measurements are being devised to be used at the conclusion of each unit.

The final works of the committee will be compiled in a Teacher's Guide complete with an introduction, a table of contents, suggested objectives for each unit, things to do in each unit, visual aids and community resources for each unit, and reading references. In an appendix will appear suggested lesson plans and suggested tests.

Modesto High School, after many years of endeavoring to improve the attendance accounting system by making changes to meet new conditions,

plug loopholes, etc., found itself with a system, theoretically sound, but too complicated to administer effectively. The obvious solution—to develop a new system using no preconceived ideas from the past—has resulted in what gives promise of being a simple and effective plan. Because of space limitations only the briefest outline of philosophy and procedures can be given. More details can be provided for those interested.

Modesto High School now operates on the philosophy that the basic penalty for absence from school must be loss of credit in the classroom. The person who does not show up for work does not get paid. Whenever a student is absent from a class, this absence is indicated by an O which is not only the symbol indicating absence, but also his grade for the day. Those who have been ill (or have been absent for other legally accepted reasons) may clear this O by bringing a note from home. This gives them the privilege of making up work missed. No notes from home are required except for those who have been ill and who wish to clear their records. In the case of a student who says he has been ill and who fails to bring a note from home, the absence is verified by phone or home call, but the student receives no clearance slip. Since students are not required to bring notes from home, the time previously spent enforcing this rule can now be used in more effective activities, contacts with the home by phone, home visits, etc. The home is contacted by phone, mail, or home call in every case of absence.

Indications are that many students, and their parents, are developing a better understanding of the importance of good school attendance. Absences due to illness are approximately the same this year as in previous years. Absences for other reasons have been cut approximately in half. There have been a few "shocked" students and parents, but when they understand the basic philosophy, they have accepted its logic and fairness. They cannot argue the point that when the absence is one of his own choice the student should not expect the same credit as though he had been in school.

Teachers and attendance workers, seemingly without exception, are enthusiastic. They feel able to maintain a closer check on absences with less expenditure of time and both physical and nervous energy.

This is certainly no cure-all for the problems of attendance but this system has seemingly been of some help.

Orestimba High School at Newman has a well-developed work experience program for students in commercial classes. Work experience is a program most easily adapted to high schools in towns having about fifteen hundred population. With many high school students looking for work after graduation, and some businessmen having a need for clerical help, it is a simple matter for the commercial teacher to bring the two together through on-the-job training as part of a course in Office Practice.

Preparation for work experience begins in school where the program is initiated by having students act as secretaries for the school office and all the teachers throughout the year. The Turse Clerical Aptitude Test is ad-

ministered in the first quarter in order to allow the students to predict their individual probable success in the field of office work. Further along in the course, extra drill in spelling and arithmetic is given to complement other skills. In the last quarter, a Secretary's Handbook is compiled by having committees gather material from different sources. These activities are given in addition to the regular textbook studies.

Outside of school and somewhat early in the year, students interview office workers regarding various aspects of their jobs. Class reports and discussions follow. Then recent graduates come to class to tell of their office duties, the part of their school preparation that was most beneficial, and other training they could have used. A lively question and answer period follows. Of course, permission had to be secured from their employers to leave work for the hour's visitation to school.

Here is the opportunity for the business teacher to contact in person the local businessmen and explain the program. Besides securing consent for an employee to speak to the Office Practice class, arrangements can be made for one or two students to participate in simple office jobs or to observe what goes on in an office. Only the class period allocated to Office Practice is allowed for this off-campus activity, and students must take the initiative for transportation and getting to the next class on time. At the end of a month's apprenticeship, students come back to the classroom to report their experiences.

Any juniors in Office Practice are given the apprenticeship training before the Christmas holidays. The timing helps some merchants at a busy season of the year and relieves the burden of finding places later for the seniors. Seniors are given their work experience close to graduation with the possibility of getting a permanent position. While no remuneration is allowed, permission is secured to use the employer's name for a reference.

Via this program, the curriculum is realistically designed to fit the needs of future office workers.

What's Happening in Junior Colleges

The fall meeting (1956) of the California Junior College Association will be held October 30, 31, and November 1 in Yosemite. In addition to the Ahwahnee Hotel, new and improved facilities at the Lodge will be available. Dr. Arthur S. Adams, president of the American Council on Education, will be the speaker at the opening dinner meeting.

Santa Ana College has recently passed a bond issue for $936,000. The funds will build a library, classroom unit, and shop building.

Coalinga College, which has until now shared facilities with the high school, will occupy its own new 40-acre campus next fall. Included in the units now approaching completion are a library planned to serve an enrollment of 500; a Student Center with lounge, fountain, and student body offices; an administrative wing, which includes faculty offices and lounge; five science laboratories; facilities for business administration and secretarial training classes; six general purpose classrooms; and a lecture hall

seating 100. A feature of interest to other colleges in the valley areas is that all windows will be sealed, and the entire plant will be air conditioned.

City College of San Francisco reports spring enrollments for 1956 totaling 6,605 students, of which 1,355 are registered in the evening division. These figures show a boost in registration of 416 students over the 1955 spring enrollment. Dr. Louis G. Conlan, president of the College, projects an enrollment of 10,000 by 1960. Building requirements for immediate and long-range needs include classrooms, a student union building, and modernization of the present science building. Also included in a "master plan"—a fine arts classroom building, which will house an auditorium; improvements of roadways, including parking facilities; a stadium and expansion of present gymnasiums.

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SYMPOSIUM

The Junior High School Today

EDWIN W. OLMSTEAD, Co-ordinator

U.S. Commissioner of Education Samuel Brownell recently announced that the majority of students in grades seven, eight, and nine are now enrolled in a junior high school. This means that the growth of the junior high school has been at an amazing pace. Yet argument still waxes strong about the effectiveness of the junior high school. Co-ordinator Olmstead, principal of Hollenbeck Junior High School in Los Angeles, has organized a discussion which would indicate the negative side of the debate may not be well informed.

Functional Housing for Junior High Schools

By M. E. HERRIOTT*

Perhaps the essentials of a school can be epitomized by Teacher-Log-Pupil. But I suspect that in this modern day teacher and pupil would soon be walking through the forest, climbing the mountain, or following the stream. Education does not take place purely through the give-and-take of two people. Surroundings (physical and social) are of utmost importance.

I am a thorough believer in the doctrine that the physical situation determines in large measure the kind of education that takes place. For example, once I taught a core program of English-social studies in a crowded six-year high school in which each class met in a different room. There was no opportunity for me to build an atmosphere of my own in any of the classrooms. I had to take them as they were, rich with materials meaningful for the other teacher and his class, or sterile as schoolrooms often are.

One room was designed for oral English, with a small stage, podium, and other appropriate equipment. Never did I meet a class in that room which did not, before the end of the semester, ask to try their hand at a play or to "make speeches." Never did one of my other classes which met in conventional classrooms make similar proposals. There was reason to believe that the physical environment was the determining factor.

Recently it has been my privilege to be named principal of one of the newest junior high schools in Los Angeles. These new schools are the product of much experience with junior high schools. Superintendents, supervisors, principals, teachers, architects—all have collaborated on committees and contributed from their experience in the development of basic

* Principal, Airport Junior High School, Los Angeles.

plans. Los Angeles' first junior high school (originally Custer Intermediate School, later Central Junior High) was opened in February 1911 in a converted elementary school (Custer Avenue). In 1917, Custer Intermediate was moved into the vacated plant of Los Angeles High School, the main building of which had been built long before the turn of the century. In September of that same year, four other intermediate schools opened in converted elementary schools. Such was the pattern of plant provision for early junior high schools, typical not only of Los Angeles, but nationally also.

The rapidity with which the number of junior high schools increased in Los Angeles soon brought about the construction of plants designed specifically for junior high school use. They were adapted to the curriculum, to the varying sizes of classes in different fields, to the anticipated size of school population, to our understanding of the physical needs of young adolescents, and to our climate which is mild and relatively dry.

Many of the schools built around 1930 and earlier were of three-story construction. It was decided during the '30s not to build any more three-story buildings because of the problems of supervision, and, more important, the physical strain on young people at this critical age. The two-story type of building continued to be built until recently, when there emerged our present one-story, finger-plan, single-loaded arcade type of plant commonly known as the "campus type." Already nine schools have been built on this pattern, eight more are in the planning stage, and nine more are projected in the near future.

Not all of these will be of exactly the same type. Variations are becoming evident. For example, one of the eight plants in the planning stage will be built back-to-back, which some think will be more economical than the current type. The back-to-back kind of construction is expected to reduce building costs and land use. On the other hand, it will create problems in lighting, ventilation, and soundproofing. If this plan proves to be markedly more economical than the current plan, then more schools will be built on these lines, even though they are not preferred by those of us who operate them. The difficult problem is that schools have to be built so rapidly to meet our expanding population that there is not time to try out an innovation, test, and modify it before another eight or ten schools are in the planning or building stages. Before the first of Los Angeles' current series of junior high schools had been occupied a year, we had opened six other new schools built on the same lines—and, unfortunately, incorporating many of the errors of the first plan which did not become obvious until the school had been occupied and the other plans had proceeded beyond the "point of no return."

Nonetheless, the new type of school is being received enthusiastically by the community, the students, the teachers, and the administrators. Ours are principally problems of adjustment to the new type of school. Many of the old patterns do not fit. How can we take full advantage of the wonderful, almost fabulous, facilities?

Words can only convey an impression of the new type of junior high school plant of which we write. There are, however, enough similar types of new schools throughout California and the Southwest so that our readers will no doubt be familiar with them.

Curriculum-wise, the new plants provide differentiated teaching facilities for the various elements of the Los Angeles program: the academic fields of English-social studies, mathematics, science, and foreign language; the fine arts of instrumental and vocal music, art, and ceramics; the practical arts of homemaking (clothing, foods, homecrafts), industrial arts (electricity, graphic arts, handicraft, sheet metal, stagecraft, and woodshop), agriculture, and typing; and physical education. Within these facilities are also possibilities for such specialties as dramatics and journalism.

As far as extracurricular activities are concerned (co-curricular, if you prefer), the new plants provide for an extensive youth services program, with the emphasis on athletics. An office is provided in the center of the field side of the gymnasium for the director of youth services. This location does not prevent such activities as interest clubs and social and square dancing being included in his program.

For the community, the new plants provide a gymnasium and athletic field, an auditorium, and a so-called multipurpose room which has a small stage and a floor suitable for seating some 450 persons. This room gets its name from the wide variety of uses to which it can be put: for school and community social events, for small graduations, for meetings of class groups, for eating during inclement weather, for noon dances, and so on. In terms of school use, it frees the gymnasium and auditorium from activities which all too often tie up these facilities and prevent their full use for the purposes for which they are so admirably constructed.

The traffic problem has been lessened because the new plants relieve the hall, stair, and door congestion which characterize double-loaded corridor, multi-story plants. Students' lockers are in the open in the arcades. There is a freedom of movement which is highly desirable for young adolescents. On the other hand, no one has yet thought through the possibilities of needed separations of the three major types of traffic characteristic of schools: pupils, teachers, and public.

Innovations in the area of services have been provided for in the plans of the new schools. The cafeteria arrangements are particularly unique. The students are served in fourteen lines, which greatly speed up service, especially as they are all out of doors covered by an open-roofed structure known as a lunch pavilion. The food is served through windows directly from the kitchen. Eight lines provide hot food and six lines provide sandwiches, packaged goods, malted milks, and the like. The student eating area is the covered lunch pavilion which is adjacent to the multipurpose room. The faculty dining room is located well away from the students' eating area, and thus largely frees the faculty during the lunch hour from the tensions of the day. One feature of the faculty dining room is a conference alcove which can be screened off by a fold-away door. Lavatory

facilities are conveniently located throughout the plant, not as separate facilities but as integral parts of the school structures.

Administrative and guidance offices have been integrated in the new plants to promote articulated functioning of principal, vice-principals, counselors, registrar, and health counselor.

The new plants have some notable assets and a few liabilities. The music rooms are closely associated with the auditorium in all of the new plants, but not always the drama room. The eating area is located well away from the classroom areas but toilet facilities are not always provided convenient to the eating areas. The offices and auditorium are invariably located near the street but parking areas are sometimes inconveniently placed at the rear of the plant. A public address system is provided for full coverage of all facilities, except that up to the present time the loud speakers for the athletic field can be operated from the gymnasium only, and, in consequence, those classes on the field are not reached by an "all-call" broadcast from the administrative offices.

Architecturally, these new schools sometimes look a bit like glorified motels, with their series of one-story buildings and seldom a center of interest such as a dominant building to which all of the others are obviously related. As seen from the air, most of the new schools form a most interesting pattern, but students and parents seldom approach their schools from the air. Probably one of the reasons why these new schools fail to give a sense of cohesion and a completely effective orientation of units is that usually a different architectural firm undertakes the design of each new school. Although each architect starts from the same basic plans and specifications, each feels professionally and artistically obligated to produce a distinctively different edifice. There is little learning from the mistakes of other architects. And none of them has an intimate day-to-day experience with the teachers, students, and curricula of junior high schools—and I insist that they are unique. For them we do need to design unique school plants.

In summary, the new junior high school plants of Los Angeles are a long step ahead in our concept of functional construction. In a variety of features (e.g., one-story, single-loaded arcades, bilateral lighting, outside lockers, and so on) they recognize the nature and needs of the young adolescent and are also climate-adapted. In their specialization of features, they provide for maximum realization of curriculum potentials. In their provision of special features such as the multipurpose room, auditorium, and athletic facilities, they cater to the community-centered aspects of the modern school. In their beauty of color and landscaping, and occasionally in their architectural magnificence, they cater to the pride which American communities traditionally take in their schools. Los Angeles has advanced far in providing functional housing for junior high schools.

A New Look at Ability Grouping in the Junior High School

By ARTHUR G. RAMEY*

The symposium on grouping in the January 1956 issue of the *Journal* was an outstanding contribution to our thinking on this educational problem. However, like other studies and articles on the topic, it left no clear answer on the question of the extent to which ability grouping should be used nor the particular form that would be most effective. This was not because of any lack of penetration into the subject nor of clarity in presentation; rather it is because of the inherent nature of the problem. There is general agreement that there can be no truly homogeneous grouping, that there can be only "likeness" in a few selected factors and that even these are tenuous and changing. Because of this, it is undoubtedly better that we do not become too certain of the value of ability grouping nor form fixed ideas on any particular system of grouping. Nevertheless, studies on the subject and our own experience demonstrate that some forms of ability grouping can contribute to the learning situation and can have practical advantages outweighing the possible disadvantages.

The important question then becomes not whether or not there should be grouping, but how can grouping be best used for effective learning. As there is no one right way or easy formula, it becomes the task of each school to evaluate continuously its own grouping practices in the light of educational objectives and results and in relation to the particular needs of the situation. In reviewing the grouping practice of a school, there are practical considerations as well as the educational factors. The size of the school and the number of pupils in the respective grades, class norms, classroom facilities, the curricular pattern, the elective offerings at each grade level, are all determinants of the pattern of class grouping.

To give concreteness to the thesis of this article, a study of grouping practices as developed at one school, Nightingale Junior High School, Los Angeles, will be reviewed. Two years ago the pattern was to group each grade level by ability determined primarily by expectancy and reading grade scores, giving some consideration to the recommendations of the teachers and the judgment of the counselor. Each grade was divided into sections of thirty to thirty-five and the groups labeled A, B, C, D, etc., the letters continuing as far as necessary to take care of all the groups. This grouping did not include the low I.Q. group who were programed separately into "special training" classes. The sections were programed as far as possible in these ability groups for English, social studies, arithmetic, and science. There was no attempt made to keep them grouped for physical education,

* Principal, Florence Nightingale Junior High School, Los Angeles.

music, art, homemaking, industrial arts, and other electives, but there was a tendency for the same pupils to remain together in most of their subjects because of the nature of the master schedule. On the other hand, pupils who were taking special subjects such as orchestra, glee club, leadership class, etc., could not always be programed in their ability groups.

As a part of a school workshop on reading, one of the committees decided to take a closer look at this grouping. Just how homogeneous were the groups? What was the effect on the counselors, teachers, and pupils of the A, B, C system of labeling? Might there be more effective ways of grouping classes?

The five ability groups in the A8 class were studied by making scattergrams to show the distribution of grade placement scores on: expectancy, reading vocabulary, reading comprehension, arithmetic reasoning, arithmetic fundamentals, language, and spelling. From the scattergrams, graphs were prepared to show the range and frequency of scores of each of the groups. All of the groups showed a concentration of scores around the median, but the grouping itself was not as marked or significant as the range of scores within each group. On the range of test scores, there was almost complete overlapping of all groups except for the E group (the lowest), which only overlapped the lowest scores of the other groups. As the pupils had been grouped according to expectancy and reading grade placement, these, of course, showed the greatest bunching of scores around the median, but the other test scores approached the normal curve of distribution in most groups.

This survey showed again what most studies have revealed: that there is no really homogeneous group and, in a practical school situation, it is difficult even to maintain a close alikeness of pupils in groups. In spite of all we as teachers, counselors, and administrators can do to remind ourselves, when a group is labeled in a sequential way, we tend to assume the group, and even all in the group, have homogeneous characteristics. Obviously, even with two grades of the same size, an A group in one would not be entirely comparable with an A group in the other, or an E group with the E group in the other. The comparison becomes even more impossible if the other class has, say, just three sections, making the lowest group in one a C and the lowest in the other an E group. Yet it is virtually impossible for a teacher with five classes, usually of different grade levels to make those distinctions continuously. Rather teachers fall into the very human tendency to generalize about and type their pupils, and to teach accordingly.

As a result of this survey and the ensuing faculty discussion, it was decided that relatively few groups would be more realistic and practical than an attempt to differentiate numerous groupings. It was felt that we could think basically in terms of four groupings: (1) fast moving groups, (2) regular or average groups, (3) slow or remedial groups, and (4) special training groups (75 I.Q. and below). To avoid, at least for a time, some of the generalizations that come from sequential labeling, A, B, C, or X, Y, Z, the groups were designated G-R-O-W in that order. With these

four groupings, the counselors, in consultation with the teachers, were able to group on a more meaningful and consistent basis, without the rigidity of the former system.

Now, it is true that this kind of grouping bothers teachers who are looking for neat, precise definitions of a group. They will ask, "What is the cutoff point for the G group?" Unfortunately, or fortunately, depending on one's point of view, this kind of grouping is an art, not a science. Test scores can give a starting point for such grouping but in the last analysis, it is counselor and teacher opinion as to the group in which the child can do his best work. It was definitely recognized that under this, or any other system of grouping, we cannot expect to teach without consideration for some forms of groupings within the class and constant provision for individual differences.

One other outgrowth of our study of grouping has been a realization that grouping on the basis of reading and the skills that make for success in English and social studies does not necessarily coincide with skills and achievement in arithmetic. To attempt to better meet this situation, a new grouping of pupils in arithmetic has been planned for the next semester. All arithmetic classes will be ungraded and will be scheduled only as upper and lower division. The three or four class sections in each period will be grouped by the arithmetic teachers according to accomplishment level. The Los Angeles Diagnostic Tests in Arithmetic are being used to aid the teachers in their grouping of classes. During the semester, pupils may be moved freely from group to group within any one class period without any problem of program changing. This type of grouping should be much more realistic in allowing pupils to be working at their own level of accomplishment and to enable them to advance at their own rate.

This experience and plan at Nightingale Junior High School does not reveal any startling new light on the subject of grouping, yet perhaps it does illustrate an important point. A flexible, open-minded, experimental approach is necessary in order to avoid some of the pitfalls of grouping and to guard against accepting easy generalizations. The grouping must be evaluated in terms of the attainment of educational objectives by the pupils, and there must be continuous re-examination of any system used. Above all, no form of grouping should dim our awareness of the wide range of individual differences within every group, nor should it narrow our teaching aims in any class to the particular skills around which the pupils are grouped.

Flexible Schedule and Programing for the More Capable

By ROBERT D. LELAND*

The junior high school is in a highly favored position to challenge the more capable learner. The more capable, early adolescent is responsible to new experiences and stimulation. Seldom do these students fail to respond as seventh graders to new experiences in home economics, shop, and other activity classes. As a bridge between the elementary school and required courses of study of high school, the junior high school program is particularly adaptable to meeting the above average learner's needs. Because of the present college entrance requirements and the additional courses required from so many California high schools, there is little room for electives in high school. The broad range of elective experience in junior high school is not only possible but highly desirable.

Programs for the more gifted learner take several approaches. Various combinations of one or more of the following are to be found in the professional literature: (1) acceleration, (2) special classes, (3) extension of experiences by use of workshops, clubs, and the library, (4) enrichment in regular classes, (5) guidance and counseling, and (6) extensive use of community resources.[1] Of these many approaches, we are concerned here with the program a faculty of a junior high school can embark upon largely within the framework of its own curriculum without forming special classes and with very little expenditure of additional funds. The more capable learner, as the term is used here, includes more students than the general term "gifted" has come to mean. Among the many definitions of gifted we find the I.Q. of about 140 and above often being used. But we are speaking here of students who may or may not be producing good grades and who probably range in the I.Q. scores of 125 and above. Because we are not only concerned with the gifted but a large group immediately below them, we use test scores and teacher recommendations to identify the more capable learner.

Special homogeneously grouped classes and extensive use of community resources are programs needing much more discussion than provided here. Junior high schools are vitally concerned with the problems of grouping, and some examples of special class results are available.[2]

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[1] "The Education of The Superior High School Student," by Paul A. Witty and Samuel W. Bloom, *The Bulletin of the National Association of Secondary School Principals*, Vol. 39, No. 207, January 1955.

[2] "Homogenous Grouping—One Approach to Educating The Gifted," Helen E. Roberts, *California Guidance Newsletter*, Bureau of Guidance, State Department of Education, Volume IX, No. 6, May 1955.

Scheduling and programing

We feel the total junior high school program of exploration in subject areas; training for citizenship by class and student council activities; activity programs during or after school; library activities, guidance and counseling, and continual development of the fundamental skills all contribute effectively toward challenging the more capable learner.

The writer will describe briefly one tool that in reality pulls all these elements of a good junior high school together—the master schedule and program. Acceptance of a philosophy of schedule construction aimed at challenging these students, and still providing a climate that meets the needs of the less capable learner, is a big first step.

The junior high schools with iron bound sets of required subjects, with students never being allowed to make exceptions, are missing a golden opportunity to meet more nearly the needs of all students, but, particularly, are missing an opportunity to stimulate the more capable learner. One of the basic premises for the existence of the junior high school is that it provides exploratory experiences in music, science, industrial arts, typing, dramatics, language arts, and home economics helping the youth discover his own interests, aptitudes and capacities. Control over the range of experiences, particularly in the seventh and eighth grade level, is necessary and is effectively handled by requiring students to have some experience in a variety of fields. At John Muir Junior High School, we have a carefully thought out required course of study. Along with the problem of meeting needs of other students, the master schedule should be constructed with the more capable learner being allowed to substitute student activities, instrumental music program, journalism, or creative writing. This type of programing is followed throughout the three grades. True, it creates more difficult schedule construction, and far more difficult programing, but we feel we are making a contribution to the more capable learner.

How does it work?

The aim is not acceleration, but rather to broaden the range of experiences. Required mathematics and language arts classes should continue to be the foundation of the required program. The mathematics might take two parallel tracks. Seventh and eighth grade mathematics can be required of everybody with the faculty consciously planning enrichment activities. A second pattern would allow for a teacher's recommendation or examination at the end of the seventh grade to drop eighth grade mathematics and permit the eighth grader to take a ninth grade exploratory class. This introduces algebra, geometry, business mathematics, and other areas not covered by a regular eighth grade class. Such a class is more difficult than eighth grade mathematics—not just more of the same. Expansion of the subject matter does not mean more problems of the same type, but more difficult problems in a different course. When this student reaches ninth grade, he would take algebra. Thus, he has been temporarily accelerated

into a wider experience, but he maintains his identity as a seventh, eighth, and ninth grader during the three years in junior high school.

The sequence in which various eighth grade sections are scheduled provides an opportunity for the guidance teachers to channel these students into ninth grade electives. For instance, in our one required semester of eighth grade science, better sections are offered science in the first semester. This enables the eighth grade science teachers to identify those students who appear to be most capable in this area. At the end of the first semester, science teachers and the guidance teachers encourage this group of capable science students to take Science 9 in the second semester. The result is a far more stimulating science program for a large group of students that take foreign language and algebra in the ninth grade and have little opportunity for science then. The question concerning the junior high school faculty is one of how much science and how soon for various kinds of individuals. Obviously, the more capable learner will assimilate more science and the step-up in the timing is the key to providing a higher quality of science for many who embark on the college preparatory program in the ninth grade.

The same pattern of programing as is found in this science sequence is used in the instrumental and vocal music programs, journalism, and creative writing. Other ninth grade electives such as typing, homemaking classes, speech, shops, office, and library training are offered to capable eighth graders as a means of providing a greater range of experience and background for the selection of courses in high school and post-high school training, as well as present and future goals in life.

The mere organization of courses and electives means little if a sound guidance program is not directed specifically toward encouraging these young people into wise selection of classes based upon individual interests, capabilities, and desires. The club and activity program can do much to lead these young adolescents into wiser personal interests. For example, a well organized Scholarship Club at John Muir, that over the years has had some very stimulating programs and projects, has done much to encourage pure scholarship among our young people.

We have but scratched the surface in these few paragraphs. Good junior high schools all over the state and nation with flexible schedules and interested faculties are contributing to the present and future of many young adolescent, more capable learners.

A Technique for Handling the Atypical Behavior Problem

By WILLIAM S. LAYNE*

What to do with the behavior problem child is a major concern in school administration. The pupil who is lowering school morale or who is making classroom teaching impossible is truly atypical in his behavior, since the techniques used for the majority of the pupils are not successful with this type of youngster. His behavior problem manifests social and emotional disturbances that indicate some type of special program must be organized to meet his needs. What can the public schools do?

The available resources of the school and the community can be utilized. Testing, guidance clinics, health office, recreational programs should be explored as possible aids to adjustment, but these are lengthy procedures. Much time is required for defining the child's problem, interpreting available data, and then planning a course of action. Parent conferences are necessary; waiting lists present a major obstacle. These resources are important and necessary for a long-range program, but what can be done immediately?

If the behavior is serious enough the pupil can be suspended from school for a short period pending a parent conference. This is desirable because it is an action that removes the pupil immediately from the situation, but it is rarely a long-range solution to the problem.

There is another technique that has proved valuable because it is planned to fit the needs of the atypical behavior problem, with emphasis on eventual adjustment in the regular school program. It is called the Social Adjustment program and it is a quick, effective way of working with the adolescent whose behavior is undesirable.

Social Adjustment is a special program (one for boys and one for girls) that is organized within the regular school. Its purpose is to modify as quickly as possible the pupil's behavior so that he can return successfully to the regular school program. It is not thought of as a "last resort" device but rather as a positive approach to helping behavior pupils get along in regular school.

Pupils are assigned to Social Adjustment classes according to their needs and also according to their ability to get something worthwhile from the class. A joint meeting is held by the grade counselor, counselor, vice-principal, and homeroom teacher to decide which pupils are to be assigned to Social Adjustment. The pupil's achievement and behavior are discussed in terms of what Social Adjustment can do for him. Classes are kept to a maximum of fifteen pupils. Once a pupil has been assigned to Social Ad-

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justment, the vice-principal holds a conference with the pupil explaining to him what Social Adjustment is and why he has been assigned to it. Next a form is filled out containing pertinent behavior, attendance, health, and guidance data about the pupil. The attendance supervisor makes a home call, at which time he informs the parents that their child has been placed in Social Adjustment and requests that the parents come to school for a conference with the vice-principal. Approximately a week after the pupil has been placed in Social Adjustment class there is a meeting of the Social Adjustment teachers, counselor, grade counselor, vice-principal, registrar, health co-ordinator, and attendance supervisor. At this time a course of action is laid out for the pupil based on how the program might best fit his individual needs.

A typical Social Adjustment program is as follows:

Boys	Girls
Physical education	Physical education
Woodshop	Clothing
Personal adjustment	Personal adjustment
English-social studies	English-social studies
Mathematics	Mathematics

These classes differ from regular classes in that emphasis is placed on therapy rather than academic achievement, since many of these pupils behave as they do because of inability to cope with the regular school program; social studies and English, for example, stress remedial measures, simplified reading, and review.

Because of the small size of the class, elective teachers are able to devote more personal time to helping the pupil bring his projects to a satisfactory conclusion. Short-range rather than long-range projects are assigned so that the pupil may have the experience of successful accomplishment.

An important part of this program is the personal adjustment period. In this class, pupils talk over their problems and attempt to find solutions for them. Of course, the success of the Adjustment Class Program depends on the interest of the teachers assigned to them. No teacher is arbitrarily given these classes; they take them because they like to work with the atypical youngster.

No attempt is made to mark the disciplinary status of Social Adjustment. The pupil is told frankly and honestly why he has been assigned, what is expected of him, and is encouraged to establish realistic goals in order that he may return to regular status in the shortest possible time. During his assignment to these classes he is ineligible to attend assemblies or to participate in the athletic program or any other school activities.

Each pupil is marked daily in each of his classes for work habits and co-operation. When a pupil has accumulated twenty satisfactory days in a class, he is permitted to drop that class and return to a regular class. A

concerted effort is made to return the pupil to the regular school program within six weeks after his assignment to Social Adjustment. If a pupil is not progressing satisfactorily, additional meetings are held with the Social Adjustment staff and new resources explored.

Once a pupil has returned to the regular school program, his grade counselor keeps a careful check on his progress and follow-up studies are made to determine the extent of the pupil's adjustment in the regular school program.

The success of any program of this type is determined by its degree of effectiveness in achieving its purpose. Approximately 65 to 70 percent of the youngsters from Social Adjustment classes become satisfactory members of the regular school program. Therefore, there seems to be ample justification for the teacher time, planning, and extra services expended by the Social Adjustment Program in helping the atypical behavior problem child make a better adjustment to school.

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An Integrated Course of Science and Geography

By ROBERT B. LEITCH*

One of the greatest problems confronting curriculum builders today is to find time and space for the ever-increasing demands of new subjects or of new units added to the existing courses of study in order to bring the curriculum up to date. The school day remains about the same length and probably cannot be increased appreciably. About the only answer to this situation seems to be that we use the time we have more efficiently.

A good illustration of this problem occurred at Lincoln Junior High School, Santa Monica, California. Several years ago the curriculum had a one-year course of general science in the seventh grade which included units on astronomy, geology, meteorology, biology, and mechanical energy. This was shortened to one semester to find time for a new course on Geography of the Eastern Hemisphere. The instructors found it impossible to teach either of these courses adequately in the one semester allotted to each of them.

After striving vainly to cover these subjects for two or three years, it appeared that much duplication in teaching could be avoided and valuable time saved by integrating the two subjects into a one-year course. The idea of setting up an experimental course of this nature was discussed with Mr. George Drake, Lincoln's principal and it was decided that it was worth a trial.

In order to get an objective measure of the students' progress in this course, standardized tests were administered to the class at the beginning and end of the year. The "Stanford Achievement Test in Science," and the "Progressive Test in Social and Related Sciences," were employed for this purpose. The class medians in both subjects rose about two and one-half years. These results greatly exceeded our expectations; so to test further their validity, the same procedures were used with another class the following year. The gains in class medians were approximately the same as in the previous year. Both of these classes were totally unselected. Hence it seemed that the integrated course had considerable merit.

Soon after this, Dr. Leonard Grindstaff, Santa Monica's director of curriculum, called a meeting of the Lincoln social studies department to discuss curriculum matters. A report was made on the integrated course at this time, and several teachers indicated their willingness to give it a trial if a workshop could be conducted to assist the teaching.

The Board of Education granted released time for preparation of the course during the summer so that it would be ready for use at the beginning

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of this school year. It was arranged also that two units of teacher institute credit be allowed for attendance of the workshop. The discussions at these sessions have shown that the teachers are finding the course quite satisfactory as far as they have taught it.

It is rather difficult to show in a brief article just how the integration of science and geography takes place in this course. About all that can be done is to give some representative samples. Anyone who has taught science and geography realizes that every concept in geography has a scientific explanation, and that most science concepts have geographical applications. Each of these subjects is understood better in terms of the other.

The units of the course are as follows:

1. Introduction
2. Astronomy
3. Cartography
4. Geology
5. Topography
6. Biology
7. Elements of climate and regions of climate
8. Mechanical energy
9. Minerals and mining
10. Life processes of industrial civilization
11. Geography of nations

It will be noted that there are more or less alternating units of science and geography throughout the course. First, the principles of a science are studied, then they are applied to geography in succeeding units.

In the introduction to the course, the reasons for integration of science and geography are explained somewhat as follows: It should be realized that geography is in itself a science. It has been said that geography is the mother of sciences. A little study of this claim will show that the statement is literally true. Man has always been dependent on animals and plants in his environment for subsistence. In order to have an adequate supply of them, he had to observe carefully where and when they were to be found.

Primitive man did not realize that he was laying the foundation for zoology while studying the habits of animals, and for botany when he was experimenting with plant foods, but his first crude observations of these things were the beginnings of such sciences. Later, as he was learning to domesticate his food sources, he initiated the more advanced sciences of animal husbandry and agriculture. As our ancestors studied their environments, they slowly extended and improved their knowledge of them, opening up one field of science after another.

Science, in the true sense of the word, is not so much a subject as it is a method for studying facts and applying them to the best advantage. However, the field of scientific endeavor has been divided into many areas, and it has become customary to speak of them as sciences such as geology, biology, and the like. As soon as one starts to make practical applications of the principles of these sciences, he finds himself moving back into the area of the mother science, geography.

Much of the subject matter of astronomy falls into the classification of pure science, but it finds several practical applications to geography in such

matters as the calendar and other measures of time, the navigation of ships and planes over trackless distances, and the mapping of the entire surface of the earth.

In cartography, the principles of measuring are shown from the world grid to smaller areas such as cities and farms. Types of map projections, scales and symbols are explained for the reading or construction of maps.

The unit on geology deals with the great geological agents which changed our bare lifeless planet into a habitation fit for fauna and flora. The results of this evolution are developed further in succeeding units on topography, climate, biology, and mining.

In biology, the occurrence of fauna and flora is explained in terms of adaptation to environment, evolution of species, and balance in nature. Physiology of fauna and flora is given and man's superiority in the world of living things is accounted for. Conservation of all living things and their environments also is stressed.

The unit on climate and its regions takes into account such meteorological factors as humidity, seasonal change, wind patterns, ocean currents, latitude and topography. These explain the occurrence of climate regions which are located carefully. Making use of the information gained from the previous biology unit, we make notations on the organic products of each region, and how these affect industry and civilization. Experience has shown that such logical reasoning is much better than the often used rote memorization of the compartmentalized geography of countries without reference to natural elements. Much of the learning of previous units is synthesized in this one. Thus the unit also serves as a good general review of the first semester.

The unit on mechanical energy gives the physical fundamentals of machines and how they evolved from the simple handicraft stage to the mechanicraft stage of today. The factors of energy, classifications, and uses in the industrial world are explained and illustrated fully. This study provides the scientific basis for the applications of energy in succeeding units on mining, manufacturing, transportation, and communication.

Minerals and mining takes up the occurrence of minerals, their extraction, refinement, and uses in commerce. This unit helps to explain the industrial growth or lack of it in countries.

Manufacturing, trade, transportation, and communication are so closely linked together that they constitute an unbroken chain in industrial civilization. Since it is hardly possible to speak of one without reference to the others, these life processes are studied together in this unit. By so doing, logical reasoning is again substituted for the compartmentalized method of instruction so often employed in geographical instruction.

In order to obtain a comprehensive understanding of the geography of nations, one has to learn not only the nature of their environments, but also the nature of their cultures. Nations as political units are a comparatively recent development in civilization. In this culminating unit, the human elements of nations are studied, tracing the progress of their peoples in

peace and war. This should help our future citizens to find better solutions for the problems which face the nation in its dealings with other countries.

It should be emphasized that this integrated course of science and geography is still somewhat in the experimental stage. It will be revised occasionally through the joint efforts of the instructors teaching it to take advantage of the helpful procedures each of them develops.

Co-operation has been the keynote in the construction and use of this course. It has been made possible only through the whole-hearted support of the Board of Education, the administrators, and the teachers.

Space does not permit the inclusion of a bibliography for the many materials used in this course. Three textbooks, 88 library books, and 146 films are used as references. The textbooks are: *World Geography* by John Bradley; *Geography of Lands Overseas* by William McConnell; and *Exploring Our World* by Bradley, Powers, Neuner, and Bruner. The wide variety of materials used helps to explain the unusual progress made by the students in this course.

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Building Responsibility Through School Government

By WILLIAM MINTNER*

Freedom and self-government are fundamentally moral concepts, which, while they grant privilege, also entail responsibility. As with all moral concepts, the attitude toward them is the key which makes them operate or fail to operate both in the individual life and in the group life. It is with this idea in mind that the School Government classes of the James Madison Junior High School in Los Angeles have been organized.

The term school government was adopted in preference to student body, or student government, for it was planned to have the pupils gain the experience of sharing in the operation of certain school areas with the faculty. The faculty was not to be thought of as being on one side of the fence with the pupils on the other, but rather that this was a joint participation of both pupils and teachers. That this fact has been accepted by the pupils in a wholehearted manner, even to the point of asking the faculty to vote for candidates of their choice in School Government elections, is a credit to both the pupils and the faculty. Of course, the pupils expected that the faculty would help them on their paper or rag drives, but they were not a little surprised to see their principal and their teachers bending over to pick up papers about the campus, so that the "Clean Campus Flag" could fly. The example was catching and soon School Government officers were willingly picking up after someone else's carelessness; watching out for a weaker member of the organization became the total responsibility of every member of the school. The "Clean Campus" was a part of the responsibility of free pupils and teachers who shared the responsibility with their pupils.

Just how is this philosophy carried out? The School Government Association is organized through representatives being members of the Senior Board or of the Junior Board. This so far is basic to all similar school organizations, but at this point a somewhat different note is put into the plan. All these representatives, except B7, must be concurrently, or must have been, a member of one of the many service organizations within the school. Service to the student body and faculty is the end goal, not the holding of an office for its own sake. The office is held that the holder may better serve. Even the student president of the School Government Association is expected either to be serving on one of the service committees concurrently with his office, or to have had at least a semester of service previous to his election to office. This semester of service is as much a requirement for candidacy to this high student office as are grades and general conduct. Also, an officer of the School Government Association might be a chairman of one of the service committees, or, at the time of holding his School Gov-

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ernment office, he might be standing on a post in the arcades or in the bicycle areas. The keynote of the entire School Government program is service. The leaders set the example by service to their fellows.

Through the responsibility of service and the holding of office by election, an attitude toward the democratic free way of life is inculcated in the pupil. He is both the leader of the pupils and also an active worker for their common good. With any office and the prestige which it carries there goes also a commensurate amount of responsibility to the school and government association.

To further aid in developing a correct attitude toward the moral worth of freedom and its consequent responsibility, the election of school government officers is quite carefully controlled, and yet is as free as such election can possibly be. Any pupil who has reached a certain grade level, qualifications such as the School Government president must be an A9, is free to run for a school government office. But at this point another change of order is introduced. In the joint session of the Senior Board and the Junior Board (the Junior Board is made up of representatives from the lower division homerooms) a committee to select a "credentials committee" is appointed from the floor. The committee is to select this "credentials committee" from the school at large. No one in any School Government office can be on the credentials committee. It is the duty of the credentials committee to meet all the candidates and to notify them of any rules which the committee has established regarding the campaign for office. Such rules as to grades, citizenship records, and the number and kind of posters are reviewed with each candidate and then the candidate signs a statement that he has read the rules and understands them. The candidate then makes his formal application for office, which is reviewed by the credentials committee. If the application passes this committee, it is sent to the school administration for approval and at the same time the lists of candidates are posted for the faculty to survey. If the candidate does not meet faculty approval, or has a poor citizenship record in the vice-principal's office, or does not pass the committee, he may not run. So far the "credentials committee" has proven to be a hard master, and has expressed itself to feel that School Government is serious business and that only the very best pupils ought to run. For instance, the credentials committee ruled that no candidate could have "give aways," or go to any expense other than a poster of stipulated size if he wished to remain a candidate. They felt that no candidate should have an unfair advantage because of his father's money or interest in seeing that his boy or girl was selected to a School Government office.

During the actual campaigning, examples of teamwork between the pupils and their teachers were quite apparent. English teachers arranged with certain pupils in their classes to speak for the candidate of their choice during the English class period. Finding out of facts about the candidates, and giving the speeches were all a part of the regular English class program. Thus the class work was tied in with School Government.

The problem of the "Clean Campus" is also one of the projects of the

School Government Association. Each day at stated intervals the School Government committee inspects the campus and tenders a report to the Junior and Senior Boards. These young people are most fair and just with themselves, in fact almost a little too hard on themselves. But they are working with the school administration, the faculty, and with themselves to get and keep a campus of which they may be proud. Again the class room teacher and the class room pupil are brought into the picture. Classes in English and social studies present panels, speeches, and other devices stressing the value to all of the clean campus. It is a joint project for all. It is not at all strange to see members of the School Government executive committee pick up a bit of stray paper as they walk about the campus, paper which they most obviously did not drop there. They are not above serving their fellows even in this menial task.

The administration and faculty at James Madison Junior High feel that if the attitude can be brought home to our future citizens that political offices have their reward in service to the community or nation, that from this service grows the prestige of the office, then our American concept of free men working with and being served by a free government will indeed succeed. It is with this in mind that the emphasis on service by and through the School Government Association has become the keynote of the entire program, that this "government by the people and for the people shall not perish . . ."

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Let's Do More Thorough Teaching

By DON PERRYMAN*

A steam engine operates at only 6 per cent efficiency. That is, only 6 per cent of the thermal energy in the coal is converted into mechanical energy. Everyone would agree that efforts should be made to realize more of this amazing potential. Perhaps an analogy can be made to teaching. A teacher may be expending tremendous quantities of "thermal" energy in getting compositions written, the texts read, the oral reports given, the spellers filled in, the tests passed, and the other multitude of classroom activities out of the way. But the actual learnings may seem meager indeed. Yet another teacher may provide a highly efficient classroom experience within the maximum growth potential being squeezed out of every lesson. The teaching is thorough.

As a supervisor of junior high English-social studies, I have the opportunity to visit the classes of many new teachers. I believe that I generally see good teaching in progress. However, in the interests of improving instruction, I would like to comment upon one of the deficiencies frequently observed. It is that the lesson is not thoroughly taught. It is incomplete. To speak of incomplete teaching is very useful terminology. It avoids some of those "either-or" traps such as facts versus understandings, grammar versus no grammar, and so many others. Professors in training institutions, administrators, and experienced teachers may well commend thorough teaching to neophytes. This article will attempt to score at least one point in thinking through what is meant by thorough teaching. Some examples are in order at this point. Will you come with me to a junior high school?

We're watching a B8 English class do an exercise in which the pupils are attempting to identify the adverbs in sentences. The definition of an adverb was accurately, even cleverly, presented at the outset by means of cartoon charts. Now the lesson ends, the papers are collected, the class moves on to something else. This lesson is incomplete. It had no beginning in any pupil writing nor is it used to improve a subsequent piece of writing.

Next we stop in an A9 social studies class where a "current events day" is in progress. Pupils in one row are giving reports. Fine! But when the row is finished the class hurries on to something else. There has been no evaluation of either the content or the oral skills used by the speakers. The potential lessons in critical thinking, which might have been realized, remain untapped.

We next see a contrasting situation in an A8 English class. Here a pupil is pretending to introduce two friends to one of his parents, the latter part being played by the teacher. The conversational difficulties are considerable. The class had previously discussed whether this situation would

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ever occur, and what would be some ways of meeting it. Now a frank but friendly analysis of the behavior of the participants occurs. A tape recorder plays back a portion of what was said. Other pupils re-enact the situation to see if they can put into practice the ideas that the class recommends. Squeezing a lesson for its values in this way is time consuming. However, if it is not done, nothing but speech practice has occurred. If only practice occurs, the advocate of separate courses, where speech is an end not a means, has a case.

The last class we visit is a group of A7's studying an exploration unit. They're reading about Columbus, Magellan, Cortez and other explorers. They are making charts matching these men to their accomplishments. Now this is part of a worthwhile lesson. The necessary facts are being obtained. The teacher shows us a test to be given soon. We see that the objective facts must be remembered accurately if the pupils are to get good marks. But the test doesn't provide any opportunity for the pupil to comment on the courage of Columbus or on any of the other intangible elements that might be present. Perhaps this feature is absent from the test because it usually requires the essay question. This type of question is rejected too often because grading it is subjective and suspect. So we inquire as to the discussion questions used in this unit. But we learn that, no, there wasn't time to discuss whether or not we find any superstitions today comparable to those faced by Columbus. Nor was it asked if the courage of Columbus in sticking by his convictions would or wouldn't be handy for a teen-ager who might be maintaining a belief in the face of peer opposition. The need to cover the ground, to include Coronado, Pizarro, Vespucci, De Soto, and so many others, left no time for pausing to make these wider connections. Is this efficiency? Won't that "memory curve" show a drop in one month to where only 6 per cent of this material is retained—the steam engine level of efficiency? Wouldn't it be better, more efficient in the long run, to make significant associations while studying a few explorers? The laws of learning indicate that more lasting retention is achieved when meaning and significance are developed. This principle argues well for more thorough teaching.

Now we leave classroom visiting to go to a luncheon conference with the English–social studies teachers. The discussion is led around to where it is clear that most of us would like to do more thorough teaching of almost any given lesson, but that difficulties, such as the pressure to cover the course, seem to stand in the way. What can be done about it?

We'll leave the school now, but you are urged to continue your mental participation in that conference discussion. I would hope that the new teachers would draw from the experienced teachers a sense of poise, that composure which comes with confidence in one's own perspective. They should come to realize that most of these pressures are self-imposed. It is true that courses of study indicate content units and skills objectives for which the teacher is responsible. But few if any courses of study dictate how many pages are to be read, whether five or fifty spelling words must

be learned each week, or whether three or thirty inventors must be matched with their inventions. The pressure to cover ground is largely self-imposed. The experienced teacher uses the leeway which he has as a professional director of learning to balance his budget of classroom time. This doesn't mean that license exists to omit an entire prescribed unit in social studies. Nor does it mean that in English a major aspect of the course, such as the effort to increase reading for pleasure, may be omitted in favor of some other aspects of the language arts program. It does mean that within a unit, or within one aspect of communication, the lessons selected should be given enough time to be properly introduced, developed, and evaluated. There's no real reason for the teacher to feel harried, to flit from one piece of busy work to another, to go through the motions of teaching without extracting potential learnings.

The National Council for the Social Studies hopes to help teachers on this problem of the crowded curriculum in its next yearbook. The idea being developed is that, if essential social studies concepts can be clearly identified, then the number of historical events needed to demonstrate these concepts may be reduced.

Undoubtedly other causes than this self-imposed pressure for coverage may be operating when one sees incomplete lessons being taught. Lack of planning, fear of disorder, skepticism regarding the presence of any true desire for learning on the part of the children, and many other factors would be worth considering. However, it is hoped that this article might lead to obtaining one more iota of power out of that steam engine, i.e. that in some classroom more thorough teaching might occur.

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How Are You Handling Tardiness?

By HANFORD RANTS*

A concentrated three-year program of education and detention at South Junior High School in Downey, California, has brought 200 cases of unexcused tardiness per day to an average of six per day this year.

It may be well to interject at this point that an important factor in any program of this kind is the size of the campus and the time permitted between classes. As a comparison for the reader it may be helpful to give you a mental image of the school. The present enrollment is 1,208 pupils with forty-six teachers and an administrative staff of five. Our physical plant is on twenty-five acres. We have thirty-seven classrooms and two physical education locker rooms. Five minutes are given for passing between bells.

Under the old system each student was allowed two unexcused instances of tardiness with each teacher before any detention was given. In a school of 1,200 students this meant that 14,400 tardy slips could be given with no punishment assessed even though each of these cases of tardiness caused a class interruption.

In preparing a change to correct the situation, a sampling of pupil ideas and opinions was taken from intelligent students who were also included in the list of habitual offenders. The most common answers indicated that nothing was done to them for being tardy. Hence, why not be late! Moreover, when detention was assigned, a pupil could skip it indefinitely without getting into trouble. Naturally this irresponsible attitude was carried into the classroom where students did only what was necessary in order to get by academically and socially. In fact, the complete campus attitude was "What can you do if I don't do it?"

The first step in the change was to transfer the system to the main office. All tardy students were required to get an admittance slip from the office before entering class. Also, students were allowed only a total of two tardies before detention was assigned. Still another step was to cut down the lines of procedure. Henceforth, the vice-principal would handle the tardy records and detention system. Cases of excessive tardiness and truancy from detention were quite common in the beginning but soon tapered off. It was found that the discipline problem and cases of recurrent tardiness could be acted upon immediately and more effectively by the vice-principal. A third step in the system was to contact the parents. Speaking to the parents proved very helpful when we pointed out that the State Code interprets "... three unexcused tardies as an unexcused absence or truancy." Of course, missing detention was considered missing an assigned class and also interpreted as truancy. To enforce this procedure, suspension and

* Principal, South Junior High School, Downey.

punishment were used to some extent. As students became resigned to the "get there on time or make it up" policy, numbers of cases of tardiness dropped rapidly although students still took advantage of the two instances of tardiness without detention. Reasons for the tardiness were 90 per cent unnecessary. Thus the last change came into existence.

Last year the present system went into full swing under the direction of a full-time attendance officer. The interpretation of a tardiness became: "A student must be in his seat and ready to go to work when the tardy bell rings." All cases of unexcused tardiness received detention because there was really no reason for an unexcused or an unnecessary tardiness. The first case of tardiness received one hour; the second, two hours; the third and each further instance of tardiness, each—three hours. At the present time when the student reports to the office for a tardy excuse, the attendance officer listens to the reason and, if in doubt, he excuses the tardiness. If the reason for tardiness is shallow and repeated, the tardy pupil is unexcused and detention assigned. This assignment is made in writing and in duplicate—one copy to go home and given to the parents as a twenty-four-hour notice, and the other copy to be placed in the files. Students who live a distance of one and one-half miles or more are furnished transportation home if the parents are unable to pick them up. On rainy days detention is postponed.

During the present school year we have averaged six and seven unexcused tardies per day. We have had six days which were tardy free.

This establishing of definite rules has resulted in a general raising of academic achievement on the campus since it gives the teachers more uninterrupted class time for instruction. Moreover, the individual spirit and total school spirit is more unified and on a higher plane. The total discipline situation is lighter because, as students put it, "We know just where we stand."

SMALLER CLASS SIZE IS HELD DESIRABLE

In the last half century, researchers have found that smaller classes are more desirable than larger ones, according to a new report by Donald H. Ross and Bernard McKenna for the New York Metropolitan School Study Council.

The study, "Class Size: The Multi-Million Dollar Question," finds that individuals are more apt to get attention in small classes—particularly in small high school English and social studies classes.

When class size is increased, the authors report, desirable elementary classroom practices tend to be dropped. On the other hand, desirable practices are added when class size is reduced.

The authors call it "patently indefensible" to set any arbitrary, common class size. "Local conditions, purposes, quality desired in education, and the abilities of the teachers must be weighed."

READING AND TELEVISION VIEWING

New answers to that question, "What has been the effect of TV on the nation's reading habits?" have been provided by a survey just completed by an Elmhurst, New York, librarian.

Major conclusion of Librarian Helen Evelyn Peerless' study was that reading and TV viewing are compatible; in fact, are mutually helpful. Other findings: TV, especially among younger viewers, cuts down initially on reading time, but decreases as the novelty wears off. Finally, TV often stimulates interest in authors and subjects about which there are books.

Elmhurst is a community of 52,000 persons in the middle income group. The Elmhurst Public Library has more than 7,800 adult borrowers, 80 to 90 percent of whom have TV sets. Although the survey was confined to a single community, it appears to be representative of hundreds of communities throughout the country.

MR. CONANT LOOKS AT EUROPE

What are Europe's schools like after two world wars? Not much different than they were before 1914. The overwhelming majority of children rarely go beyond a common school education. A tiny minority of elite are prepared for secondary schools which in turn prepare the intellectually able for the university. So says Dr. James Conant, U.S. Ambassador to Germany.

Only 10 per cent of Europe's youth reach the high school. At the early age of 11, 12, or 13, European children are separated by an iron net of school grades and examinations into those who will quit school and go to work and those who will enter the university, Dr. Conant said in interviews held while he was in New York in January.

The curriculum is heavy with ancient and foreign languages, stiff courses in mathematics, science and history. Secondary school students work hard and long. They memorize entire textbooks. For them there is in reality "full-time" education. "But for 90 per cent of those who are not destined for the secondary school," Dr. Conant explained, "there is no full-time education. Many millions of European children attend no more than five hours a week of schooling."

PUBLIC SCHOOL GRADUATES MAKE GOOD

If Princeton University is any criterion, public high school graduates do better in college than students from private schools.

A recent study by the Princeton University Counseling Service found that the 244 public high school graduates in the survey group earned higher grades, on the average, than did the 398 private school alumni. The researchers used a scholastic aptitude test which enabled them to measure ability and to take that factor into account in their comparisons.

A similar survey was made among sophomores and here again public school graduates were found to earn higher grades than private school graduates of equal ability.

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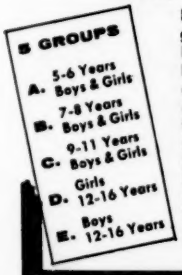

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